PRACTICAL SURGERY:

CONTAINING THE

DESCRIPTION, CAUSES, AND TREATMENT

OF

EACH COMPLAINT;

TOGETHER WITH

THE MOST APPROVED METHODS OF OPERATING.

By ROBERT WHITE, M. D.

LATE PRACTITIONER IN SURGERY.

THE SECOND EDITION,

CORRECTED AND ENLARGED.

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TO THE READER.

THE many valuable works which have at different æras been publiſhed relating to the Practice of Surgery, may have been thought ſufficient to communicate every neceſſary information upon that ſubject; ſtill it muſt be acknowledged, that the great improvements made in the art, within the laſt thirty or forty years, have rendered the practical part ſo widely different from what has been handed down in the writings of former practitioners, as to give ample room for further explanations and remarks.

Much has been publiſhed upon the ſubject within that term; but ſome of the works are too voluminous and expenſive; ſome treat of particular diſorders only; and others are more attached to the improvement of operations and hypothetical invention, than made ſubſervient to general practice; ſince it is very well underſtood, that experience and obſervation, together with a competent knowledge of anatomy, ought to be the leading principles of this excellent art.

There is without doubt a preliminary knowledge, which opens the mind to reflection, and is neceſſary towards improvement. One of our earlieſt Philoſophers has declared, that the ſcience of Medicine ſhould be founded upon a true and active Natural Philoſophy: allowing which axiom to be perfectly juſt, it is the buſineſs of every Student to be aware of the fanciful ſchemes and chimerical ideas of Theoriſts, whoſe ſyſtems may lead him into vain purſuits, and divert his attention from ſound practical knowledge.

Human reaſon is evidently too weak to inveſtigate the more myſterious courſe of nature; and the modus operandi is not ſo great an object of enquiry, provided the means employed be regularly attended with ſucceſs. Indeed, the art of Surgery has little need of ſuch aids;

NON TALI INGENIO ———
——— EGET ———

Thoſe applications which are known moſt to aſſiſt, and leaſt to interrupt the efforts of nature, are entitled to preference.---Common ſenſe will in moſt inſtances be equal to the taſk of ſuggeſting the means for relief; and reaſon and experienc

perience will readily aſcertain the propriety of uſing them.

For the more immediate benefit, then, of young practitioners, a ſyſtematic book of reference, as compendious as the nature of the ſubject would admit, formed from the general practice in its preſent cultivated ſtate, and founded on poſitive facts, cannot ſurely be thought an uſeleſs performance. In the proſecution of it, the reader will readily imagine the neceſſary obligations which the author muſt be under to the ingenious and uſeful works of ſeveral eminent writers upon the different parts.

On theſe premiſes, the author introduces a plain, conciſe ſtatement of the moſt rational practice; and has drawn up his account of it, in what he deems the moſt ready and eligible plan; by dividing it into general heads, and giving a regular deſcription of each diſorder, its cauſes, and mode of cure. And in order to render the work more complete, he has added a liſt of ſuch topical and other remedies as are applicable to ſurgical caſes.

The following articles were intended for the firſt edition, but, by particular accident, were unavoidably omitted; viz. Strains and Contuſions, Inflammation and Abſceſs of the Liver,

and Lumbar or Pſoas Abſceſs, Remarks de Necroſi, Pellier's Mode of treating the Cataract and Fiſtula Lachrymalis; Hernia Cyſtica, Nævi Materni, and Spina Bifida, are alſo additional.

It is to be feared that ſome inaccuracies have again eſcaped notice; yet the author flatters himſelf, that the candour with which the former edition has been received, will equally befriend the preſent. It may be further remarked, that many of the inſtances hinted at as declaratory of the treatment herein noticed, were under the management or direction of the author.

INTRODUCTION.

INTRODUCTION.

SURGERY means that branch of the healing art which is employed in relieving or curing, by means of topical applications, and manual or mechanical operations: yet every one who is desirous of exercising the office of a Surgeon with propriety, should be well versed in anatomy and medicine. How wretchedly bad, therefore, must the mode of practice have been in former ages, when intrusted to the meanest quacks, and the most ignorant pretenders. But happily for human nature, this noble art has been rescued from such ignominious hands, by the Surgeons of the last, and this century; who, through their great industry and attention, have brought it to its present excellence.

The practice of Surgery is strongly connected with that of physic; insomuch, that in many cases, it is impossible to separate them; on which account, no just cause can be assigned why they should be considered as distinct pro-

vinces. Faſhion and prejudice in this, as in all other ſublunary matters, may bear great ſway; ſtill, ſuch unworthy influence apart, it becomes an indiſputable fact, that good natural parts, a liberal education, and a well-grounded knowledge in anatomy and medicine, are all needful towards forming a complete Surgeon: and alſo that no phyſician can be perfect in Surgery, unleſs he has acquired practical ſkill. The lectures on *Anatomy*, *Chemiſtry*, *Natural Philoſophy*, the *Materia Medica*, *Practice of Phyſic*, *Surgery*, and *Midwifery* are arrived at the greateſt perfection in theſe kingdoms; and the ardent zeal with which the ſtudent is inſtructed in all theſe important branches, gives him every opportunity of being well informed in the ſcientific part; whilſt, at the ſame time, what can be more convenient, or better adapted towards rendering him ſkilful in the practical parts, than the many charitable inſtitutions for which this nation is ſo juſtly famed. Under ſuch advantages, with adequate parts and application, one cannot conceive it by any means beyond the reach of a ſingle mind, to acquire every branch of medical knowledge. Proofs of ſuch ſkill and ability are to be met with in many parts of theſe kingdoms; and it is not unlikely, that the different parts of the profeſſion

ſeſſion will, in time, be more generally blended, in the Capital.

Syſtematic writers have divided and ſubdivided the art of Surgery into many parts, according to the different operations; if there be a real neceſſity for ſuch diviſions, they may all be compriſed under the following general heads: *Syntheſis*, which comprehends divided or diſtant parts to be re-united; as in wounds, fractures, diſlocations, &c. *Diæreſis*, or the diviſion of parts either by inciſion, cautery, perforation, &c. and *Exæreſis*, which takes in the removal of morbid parts, or foreign bodies.

It has been generally thought proper, in the introductory part of a work of this kind, to acquaint the reader with the order in which the contents are digeſted; in addition therefore to what he is already appriſed of in the addreſs, it will be neceſſary to obſerve, that it firſt treats of the *general* complaints, ſuch as *Inflammation*, and its conſequent *Tumours*, *Wounds*, *Ulcers*, *Fractures*, *Diſlocations*, &c. afterwards of thoſe which affect *particular* parts, together with the moſt approved methods of *operating* in each; and that he will find the *Prognoſtics* and *Diagnoſtics* either interwoven with the deſcription of the diſorder, or particularly ſpecified, according to the nature and importance of the ſubject.

It

It is here alſo cuſtomary to notice ſuch inſtruments as are commonly neceſſary; but as to thoſe which are required on particular occaſions, reference may be had to the liſts of the different makers: and it ought to be underſtood, that the inſpection of a real inſtrument (which every young Surgeon has an opportunity of viewing, with all its various alterations and improvements, or ſupplying himſelf with, at the ſhops of the moſt noted makers, previous to leaving the hoſpitals) will afford a much more perfect idea, and more ſtriking impreſſion of its ſize, form, and uſe, than can be conceived from the imitative powers of the moſt correct engraving.

Thoſe which are commonly neceſſary are, a ſmall caſe of lancets, which ought to be neither too broad nor too narrow ſhouldered, nor too thin upon the blade; a pair of ſtrait ſciſſars, a ſpatula, forceps, pliers, and a hook, a ſtrait and crooked ſcalpel, a ſtrait double-edged ſcalpel, the eye and tent probe, a grooved director, ſmall cautery, and a cauſtic quill; ſtrait and crooked needles, of different ſizes, ready-threaded; a ſalvatory, lint, and plaſters, are alſo neceſſary portables. The Surgeon, thus equipped, is prepared for any ſudden exigency. He ought alſo to carry about him a ſmall phial with thebaic tincture, and another with wine of anti-

antimony; the uſe of which medicines, upon certain occaſions, will be gaining time to the practitioner, and more immediate relief to the patient. The common neceſſaries for dreſſings are lint, plaſter, compreſs, and bandage.

Lint, in form of what is called a pledgit, is generally the firſt dreſſing for wounds, either dry, or moiſtened with ſome vulnerary balſam, or lightly ſpread with cerate, or emollient ointment. It was formerly in great uſe as a tent; but thoſe applications are now properly conſidered as obſtacles to the art of healing, and are confined to the preſerving an opening for the diſcharge of matter from ſome large cavity, which on ſuch occaſions are moſtly made with a piece of fine rag, of a flat form, and ſo as not to block up the whole of the aperture; and in ſuch caſes as require dilatation, or in opening ſome obſtructed paſſage: both which laſt are commonly brought about, by means of ſponge or gentian root, bougie, or the like. Clean, ſoft, brown tow, as it is called, is ſometimes a very good ſubſtitute for lint, particularly in thoſe ſores that diſcharge profuſely.

Plaſter, adheſive particularly; linen cloth is ſpread with this for confining dreſſings, ripening indolent tumours, and forming the dry ſuture. If the part on which the plaſter is to be laid is

hairy, it muſt be ſhaved; but in ſome habits, it may be remarked, that the moſt ſimple plaſter will irritate and inflame the ſkin; and in lieu thereof, a mild cerate with ſlight compreſs and bandage, may ſerve as retentives.

Compreſſes are moſt commonly made of ſoft linen rag, free from knots, ſeams, and looſe threads, and ſhaped agreeably to the part, or purpoſe, to which they are applied; they are uſed either dry, or moiſtened with ſome liquid application, in order to render the bandage or thin ſplints more eaſy and effective, eſpecially where tightneſs or preſſure is required, and to retain dreſſings. Tow, in caſes where the diſcharge is great, is a good aſſiſtant, or ſubſtitute.

Bandage. This is the laſt, though not the leaſt important part of each dreſſing. Writers, upon this ſubject, are more than ordinarily full in their explanations; and the numerous diviſions on that head are extremely perplexing: even when an illuſtration has the aid of the beſt engraving, the mode of application is often of too complicated a nature to be underſtood by the man of experience, more eſpecially by thoſe who have not had the opportunity of obſerving or performing it. It is only meant then ſlightly to notice the names, diſtinctions, and mode of

applying

applying ſome of the moſt common bandages; and to recommend the attainment of ſuch part of the reſt as is neceſſary, from obſervation and practice: which, after all, muſt be guided by the Surgeon's own dexterity and diſcretion.

Bandages ſhould be made of linen cloth that has been in uſe, yet ſtrong and clean; they ought to be free from ſeam, knot, roughneſs, or looſe threads, and ſhould be cut, in length, breadth, and ſhape, according to the part or occaſion, to which they are to be applied. They are commonly divided into ſimple, or compound. The ſimple are either rolled up at one, or at both ends, which are called ſingle, or double headed rollers; and may be applied in a circular, ſpiral, or re-inverſed manner; that is, half twiſted, to make them ſit even. Compound bandages have ſlits or apertures in them, or are made up with ſeveral pieces ſtitched together. The bandage with four heads, tails, or looſe ends, with a hole in its middle for the inſertion of the chin in the fractured jaw, and the eighteen-tailed bandage uſed for fractured limbs, are of this ſort. Some again have their names, from the part of the body to which they are applied; for inſtance, the bandage of the head, thorax, &c. and from their reſemblance to ſome figure, the

ſpica,

ſpica, ſcapha, ſtellated, T bandage, &c. others have their appellation from particular uſes, viz. retentive, uniting, dividing, &c.

The neateſt and moſt ſecure way of forming the ſimple ſingle-headed bandage to the arm, is, by firſt making a turn or two round the wriſt, and then proceeding to the part, where the bandage is required, ſpirally, that is, where the edge of each ſucceeding round aſcends or deſcends upon the former at a ſhort diſtance, ſomewhat like the winding of a ſcrew; if it be made on the lower part of the leg, to begin round the foot and ancle, then proceed as before; and as the tapering of the leg, eſpecially near the calf, will make the windings fall uneven and bag out, it will there be neceſſary, at every turn, or every ſecond round at leaſt, to reverſe the bandage, or give it a half-fold backward, which maxim muſt be obſerved on all occaſions, where the ſhape of the part may require it. In the double-headed roller the middle is to be firſt applied, and each part according to the caſe to which it may be adapted.

Care ſhould be taken not to apply bandages either too tight or too looſe; the one will occaſion pain, tumour, inflammation, and perhaps gangrene, and the other will render them of no effect.

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PRACTICAL SURGERY.

PART THE FIRST.

INFLAMMATION AND TUMOUR.

SYMPTOMS. EVERY organized part is ſubject to inflammation; which diſeaſe generally begins with a ſenſe of cold and ſhivering, thirſt, and watching; the part affected becomes red, tenſe, and painful; during the rigor, the pulſe is ſmall, quick, and unequal; afterwards, full and throbbing. The ſecretions are diminiſhed, the ſkin grows dry and ſtiff, the urine is high-coloured and turbid; and the blood that is drawn, when cold, is covered with a tough buff-coloured ſize.

Phlegmon. The tumour known by this appellation, is inflamed and circumſcribed; and is accompanied with heat, redneſs, tenſion, and throbbing pain: when ſlight, it has but little effect upon the general ſyſtem, but if conſiderable, is attended with the foregoing febrile ſymptoms.

CAUSES, *Externally*, are whatever tend to ſtimulate or produce pain or irritation; ſuch as wounds of every kind, burns, ſcalds, bruiſes, ſtimulating applications, ligatures, violent exerciſe, heat and cold.

Internally, a critical termination of febrile matter, or a vitiated ſtate of the fluids. The proxi-

mate cauſe of Inflammation is not ſatisfactorily explained.

Termination. Inflammatory complaints terminate either by diſperſion, maturation, gangrene, or ſcirrhus.

Diſperſion, or *Reſolution*, is the moſt eligible mode of termination, except in tumours that are critical, or the conſequences of a vitiated habit.

To effect the cure by diſperſion, all exciting cauſes muſt be removed; and hot fomentations and emollient cataplaſms are improper applications for that purpoſe: inſtead thereof, ſaturnine ſolutions and cold diſcutients ſhould be uſed: namely, Goulard Water (Aq. Lytharg. acetat. comp.) a ſolution of ſugar of lead in vinegar and water, or of crude ſal ammoniac in vinegar; keeping the part conſtantly moiſt with poultices compoſed of one or other of theſe mixtures, and the crumb of bread. But if the part be too tender to bear the weight of a poultice upon it, ſoft linen cloths, once doubled and moiſtened with theſe liquids cold, may be frequently applied.

In caſe of extreme heat, tenſion, or irritability, a ſmall portion of bland olive oil, or oil of roſes, by themſelves, or mixed with about a fourth part of vinegar, may be gently rubbed over the part. If it be extremely tender, a piece of fine rag dipped in milk juſt warmed, or ſpread lightly with the white liniment, may be occaſionally applied. In ſome deep-ſeated inflammations, vinegar, with or without ſal ammoniac, and mixed up with crumb of white bread, has proved an effective diſcutient.

Blood-letting ſhould be repeated according to the exigency of the caſe, and the ſtrength of the patient; cupping and ſcarifying, and the application of leeches near the part affected, are ſometimes of ſervice, and are more ſuited to debilitated habits than the cuſtomary mode of drawing blood.

Gentle

Gentle laxatives, and a low diet, have much better effect in moſt conſtitutions than briſk purges; ſuch as Glauber's ſalts in a large portion of water, or a ſolution of ſoluble tartar now named kali tartariſatum and manna in barley water, almond milk, or infuſion of ſenna. A great deal depends upon plentiful dilution; drinking a ſmall quantity at a time, and often, of toaſt and water, barley water with orange juice, thin gruel, or the like. Ripe fruits, or their juices, are alſo beneficial, by abating thirſt, and correcting heated bile. Nitrous and neutral mixtures are likewiſe of uſe; and in caſe of extreme pain or irritability, which are the general attendants of conſiderable inflammations, opium will be abſolutely neceſſary, and ſhould be given in doſes ſufficient to abate thoſe ſymptoms. The tincture of opium, joined with antimonial or ipecacuanha wine, and occaſionally repeated, forms a medicine far preferable to opium or its tincture ſeparately.

Maturation, or *Abſceſs*. When the tumour grows larger and ſofter, the throbbing pain increaſes, and a rigor attends, the means for diſperſion ſhould be laid aſide; and it will be proper to purſue the following treatment, in order to aſſiſt nature in the buſineſs of ſuppuration.

If the patient be much weakened, a more full diet ſhould be allowed, and ſuch applications ſhould be made as may tend to create and preſerve a juſt degree of heat in the tumefied part. Warm emollient fomentations, and cataplaſms with bread and milk, to which a little pure oil or freſh butter may be added, ſhould be applied; the former every ſixth hour at leaſt, the latter every fourth hour. Roaſted onions, or a ſmall portion of the warm gums diſſolved with the yolk of an egg, and added to the poultice, are proper ſtimulants when the inflammation is deficient; on which occaſion alſo, cupping without ſcarifying is ſaid to be of uſe. In

cold indolent tumours, no remedy anſwers better than the plaſter of Lytharge with the gums.

When the throbbing pain abates, a thinneſs and riſing appears in ſome part of the ſwelling, a fluctuation is perceived, and the fever gives way, the abſceſs ought to be opened; otherwiſe, abſorption may take place, and greater miſchief will enſue. It is not neceſſary to wait for full maturation in abſceſſes, on or near the joints or bones, or ſeated over the thorax and abdomen, or in thoſe which are critical.

The methods of diſcharging the maturated fluid are, by ſimple inciſion, cauſtic, or inciſion with ſeton.

Simple inciſion is performed with the lancet, and ſcalpel, or biſtoury with a director. It is a uſeful mode of opening in fiſtulæ, ſmall abſceſſes, and to prevent the deformity of a ſcar; always remembering to make the inciſion, if poſſible, in the moſt depending part, and according to the courſe of the fibres.

Cauſtic is ſeldom neceſſary. This mode is principally of uſe where the malignity of the complaint is likely to prevent quick incarnation, and lips after inciſion are apt to grow callous, of which kind are venereal buboes; to expoſe a carious bone, and to make large fontanels.

The cauſtic is to be applied after the following manner: cut a proper-ſized hole in a piece of ſticking plaſter, fix it cloſe to the part, and lay a few ſlips of the ſame one upon the other, round the edges of the opening; then apply a ſmall pledgit of lint ſpread with a maſs of equal parts of the ſtronger common cauſtic and ſoft ſoap, into the opening of the plaſter down to the ſkin, and a large piece of the plaſter over all. Care ſhould be taken to make the opening of the plaſter leſs than the intended opening of the teguments, as it is hardly

hardly poſſible to confine the cauſtic within proper bounds.

To lay a bone bare, or make an iſſue, it muſt be continued upon the part ſeveral hours; to open an abſceſs three hours may be ſufficient; but in every inſtance the effect and time will be in proportion to the thickneſs of the ſkin, and the nature of the part. When the eſchar is perfectly formed, it will be proper to ſcarify down to the ſore, and remove as much of it as can be done without pain.

The inciſion with ſeton is of all others the moſt eligible method of diſcharging the contents of a large abſceſs. It empties the ſwelling gradually; by which means, the ſides contract and adhere much ſooner than by any other mode of opening: beſides, it prevents a free admiſſion of the common air to the internal ſurface of the ſore; and is attended with leſs pain and inflammation: it is commonly done after the following manner:

Make a proper opening with a ſtout lancet in the ſuperior part of the abſceſs, into which introduce a curved director, or eye-probe, armed with cotton wick or ſoft ſilk, proportioned to the ſize of the tumour, and gently thruſt the point of the director down to the moſt depending part of the ſwelling, till it is felt externally; then make an inciſion upon it with a knife, or ſtout lancet, and let the inferior orifice be rather the largeſt; through which draw the director or probe, with ſo much of the cord as will leave two or three inches of it hanging out of the lower orifice. The cord or ſeton muſt be moved downwards every day, and all ſuch part of it as was uſed the day before muſt be cut off. In proportion as the diſcharge leſſens, let the ſize of the ſeton be diminiſhed, by withdrawing a thread or two every other day; and when it is wholly withdrawn, confirm the union by a compreſs, and a gentle bandage. This practice is univerſally approved, and its advantages are more particularly deſcribed by

Mr. Bell in his ingenious and uſeful performance on the treatment of ulcers.

The general mode of dreſſing an abſceſs opened by ſimple inciſion is, firſt, with lint lightly preſſed between the edges of the opening; afterwards, with mild digeſtives; the white or yellow cerate made with the pureſt materials, and ſpread thin upon lint, are the mildeſt and perhaps the beſt applications. Should the edges grow callous, it will be neceſſary to ſcarify them, and to touch them with lunar cauſtic. Tents and vulnerary injections are happily diſcarded. Fungous fleſh is to be prevented by keeping the edges down with lunar cauſtic, and dreſſing with dry lint, now and then with lint or rag ſpread very thinly with the white cerate, and uſing a moderate bandage. When inflammation is removed, and the diſcharge is in moderate quantity, a ſlight compreſs and bandage will haſten the cure.

In abſceſſes to which the cauſtic has been applied, it is generally adviſeable, as ſoon as the eſchar is perfectly formed, to make a fit opening therein for the diſcharge of the matter, with a lancet; and to ſcarify or clear away a principal part thereof with the knife and hook, waiting for nature's effort to ſeparate the reſt. It will be right in common to apply the emollient poultice repeatedly in contact with the ſore, for a few days after the opening has been made, eſpecially if any induration remain in the circumjacent parts; then to dreſs ſuperficially, as directed in the foregoing paragraph.

In the cure by inciſion and ſeton, little more is required to be done, than ſmearing over that part of the cord which is next to be drawn down into the ſore, with a ſoft liniment. In this, as well as every other method, the part ſhould be cleanſed, and the dreſſings ſhould be repeated, according to the quantity and quality of the diſcharge.

Gangrene

Gangrene or *Mortification.* This is the worſt conſequence of an inflammation. An incipient mortification is called a *Gangrene*; when the diſeaſe is compleat, and extends to the bone, it is termed *Sphacelus.*

Description. In the *Gangrene*, the bright redneſs changes to a duſky livid colour, the pain and ſenſation are diminiſhed, the tenſion abates, vefications filled with various-coloured ichor appear, and the pulſe ſinks.

In the *Sphacelus*, which is the laſt ſtage of a mortification, the part is quite black, has no pain or ſenſation, and emits a diſagreeable ſtench; the pulſe quickens and ſinks, and without ſupport, oppreſſive languors ſucceed, profuſe ſweats come on, the patient grows cold, and life ſoon paſſes away.

Causes. A Gangrene may proceed from a high ſtate of inflammation; from obſtructed circulation, by ligature, preſſure, or extreme cold; from a vitiated habit, or ſtate of the bilious and other ſecretions; from old age, or conſtitutional weakneſs.

Internal Remedies. Should the general ſymptoms of inflammation run ſo high as to indicate gangrene, which is not unlikely to be the caſe in a young ſubject, where no previous evacuation has been made, a ſlight bleeding and gentle evacuations will be proper; but in the more general and confirmed kind of gangrene, attended with languor, and an acrid ſtate of juices, the ſyſtem ſhould be regularly kept up, by nutritive diet, wine and other cordials, and tonic medicines. To which end, from half a dram to a dram of peruvian bark, taken every hour or two, in a ſmall glaſs of wine, or brandy and water, will greatly contribute. In caſe of ſtricture, heat, and dryneſs of ſkin, which ſometimes greatly incommode the patient on firſt taking the bark, a ſpoonful or two of the following julep will relieve, by exciting a gentle perſpiration.

Camphor Mixture, ſix ounces; Mindererus's Spirit (Acetated Water of Ammonia) two ounces. Mix.

Sometimes it will be uſeful to add to this mixture a dram or two of the Aromatic Confection. In many caſes where the ſtomach has rejected the bark given in the manner now directed, the following formula, preſcribed by Mr. Bell, has anſwered well:

Simple Alexeterial water, and ſtrong cinnamon water, each three ounces; aromatic water two ounces, bark finely powdered half an ounce: the doſe, two ſpoonfuls every half hour or hour.

Sweats are weakening, and ſhould be ſtudiouſly corrected; towards which, nothing is ſo likely to contribute as the addition of a few drops of elixir of vitriol, ſo long as that ſymptom requires, and as often as the ſtomach can bear it; but the beſt mode of giving the drops, is in the patient's common drink. A decoction of virginian ſnakeroot has proved ſingularly beneficial to perſons greatly advanced in years, and of a cold conſtitution, where the ſtomach totally rejected the bark.

When the mortification is fixed on the lower extremities, and is attended with a burning obtuſe pain, opium, taken with a ſtrong decoction of bark, may prove efficacious; in which caſe it is beſt to begin with a grain every three or four hours, and gradually increaſe the doſe if neceſſary.

In mortifications, more eſpecially thoſe which ariſe from internal cauſes, the principal dependance is upon internal remedies. Generous wine, and the bark, are allowed to have preference. A proper ſtool muſt be occaſionally procured, agreeably to the ſtrength and natural habit of the patient. Domeſtic glyſters, or rhubarb in ſmall quantity alone, or joined with

with ſoluble tartar (tartarized kali) are moſt likely to have proper effect.

External Remedies. The moſt general applications are the cummin ſeed poultice and poultices made with the flour of oatmeal, or grated crumbs of bread, and a ſufficient quantity of the grounds of ſtrong beer. The fermenting poultice, recommended in mortification of the toes, is of general uſe in cachectic habits. The gangrenous tendency from exceſſive inflammation, is moſt likely to yield to the common white bread poultice frequently applied, with the addition of a little bland oil.

It is a matter of doubt with ſome eminent practitioners, whether ſpirituous fomentations and ſtrong digeſtives are of much uſe; the relaxing heat with which the former is often applied, and the ſtrong ſtimulus of the latter in incipient mortifications, may do as much harm as good; the chief uſe of either is moſt probably derived from their antiſeptic qualities, which the poultices may be made equally to poſſeſs. The good effect of ſcarifying to the quick is alſo diſputed; ſuch inciſions, ſo far as they ſerve towards removing the dead parts without pain, are undoubtedly uſeful; further is not to be proved, until we are better acquainted with the degree of ſtimulus neceſſary to aſſiſt the vis naturæ. The following epithem is ſaid to have been much uſed in the northern part of Great Britain, yet it will prove too potent a ſtimulus with moſt irritable habits:

Crude ſal ammoniac, one dram; beſt wine vinegar, two ounces; pure water, ſix ounces. Mix.

When a line of inflammation appears between the diſeaſed and the ſound parts, there is reaſon to expect a perfect ſeparation, and the ſlighteſt and moſt eaſy dreſſings anſwer beſt.

Mortified

Mortified parts in the extremities, where the bones are thoroughly diſeaſed, will require amputation; but in aged and debilitated habits, that operation ought not to be performed, till a regular ſeparation through the muſcular parts has taken place.

Scirrhus in conſequence of inflammation is treated of under the articles *Scirrhus* and *Diſorders* of the *Breaſt*.

ERYSIPELAS, OR ST. ANTHONY'S FIRE.

Description. Is a ſpecies of phlegmon with no evident tumour; it is principally ſeated on the exterior part of the cutis, ſpreads irregularly, and ſometimes to great extent. It is attended with a diffuſed redneſs, which diſappears on preſſure, but returns, alſo with a burning heat, more or leſs fever, ſickneſs, and vomiting; and is of a bright or dull red colour, according to the vigour of the conſtitution, or the degree of acrimony in the fluids. It ſeldom inclines to ſuppuration, unleſs improperly treated, or when it extends to the cellular membrane; but generally throws forth ſmall puſtules, or veſicles, containing an acrid watery humour. It is commonly attended, for two or three days before and after ſuch appearances, with the ſymptoms of an inflammatory fever, and gradually declines, leaving the ſkin of a yellowiſh colour after the cuticle has ſcaled off.

The urine is, at firſt, for the moſt part, high-coloured and turbid; afterwards it lets fall a copious, lateritious ſediment.

When it ſeizes the face, head, or neck, the ſkin grows tenſe, and is inflated to a high degree; in that caſe, head-ache, coma, and ſometimes delirium enſue; if it attack the limbs, the febrile ſymptoms are leſs violent. The alimentary canal ſometimes ſuffers under eryſipelatous inflammation. If the patient's

tient's conſtitution has been broken down by age, diſeaſe, or any other cauſe, it often terminates in a gangrene; eſpecially if it be combined with a peſtilential or malignant fever.

Causes. The general cauſes of this diſorder, are conſtitutional diatheſis, plethora, great heat, irregular living, ſudden cold after heat and ſweat, drinking too much of fermented or ſpirituous liquors, bilious or ſcorbutic acrimony.

Cure. When the eryſipelas is of the true inflammatory kind, the antiphlogiſtic regimen and remedies are proper; venæſection and evacuations are to be regulated by the quantity of fever, and the ſtrength of the pulſe; and are generally neceſſary during the firſt ſymptoms; yet care ſhould be taken not to reduce the patient too low.

In the common mild kind, lenient purges, and diluting plentifully with ſmall milk and water, barley water, cream of tartar or cheeſe whey, will prove ſufficient. The moſt proper lenitives are, half an ounce of Glauber's ſalt, diſſolved in half a pint or more of water, of which a cupful is to be repeatedly taken till it anſwers; ſoluble tartar (tartarized kali) and manna diſſolved in the common emulſion now called almond milk, or a ſlight decoction of ſenna with prunes. Glyſters may be occaſionally adminiſtered, and, in the interim, nitre with camphor, or neutral mixtures with the fixed or volatile alkali. In ſcorbutic habits, no one preparation ſucceeds better than the infuſion of malt. If the complaint has affected the head and cheſt, and been imprudently repelled, bleeding, bliſters on the back or legs, Mindererus's ſpirit with the compound powder of contrayerva, and gentle evacuation by ſtool, will be neceſſary. When the diſorder is critical, great evacuations are utterly improper; and acid, aſtringent, or cold applications, muſt be avoided. If the complaint be attended with a putreſcent ſtate of the juices, or a languid ſtate of the vis vitæ, cordials and anti-

antiſeptics, ſuch as the bark mixture heretofore mentioned, the julep with camphor, and Mindererus's ſpirit, cordial confection, and the like. Red wine is alſo uſeful, by itſelf, in negus, or otherwiſe. Some modern writers indiſcriminately order bleeding, purging, and unctuous applications; but ſuch practice has proved very improper in particular habits; the ſame indifference is alſo obſerved with reſpect to the uſe of repellents in the piles; from which much miſchief has ſometimes enſued.

External Treatment. Sponge the part with an infuſion of chamomile flowers and milk, or uſe cloths wrung out of a decoction of elder flowers, with the addition of a little opodeldoc. In conſtitutions that will bear repellents, cloths moiſtened with Goulard's vegeto-mineral water may be applied; and, in obſtinate caſes, a ſlight ſolution of alum has proved ſerviceable. When bliſters or puſtules appear, and begin to diſcharge their acrid contents, the beſt and ſafeſt method is, to ſprinkle lightly over the part, fœnugreek, or ſome other kind of farinaceous powder, and to apply a piece of fine doubled rag ſpread thin with white cerate. Cabbage and vine-leaves have ſometimes good effect. Houſe-leek and cream is alſo a common and effective application; but the three latter remedies ſhould be cautiouſly applied. Emollient fomentations ought alſo to be uſed with caution, as they tend to promote ſuppuration.

ANTHRAX OR CARBUNCLE.

Description. The anthrax in the plague, appears ſuddenly in the form of a bliſter, which is followed by a large, blunt-like, black ſpot, and is attended with very little tumour. Sometimes it comes on with much itching, and is ſurrounded with a red, fiery

fiery circle, forming ſmall tubercles of corrupt fleſh, and mortifies in a ſhort time.

There is a tumour of a milder nature, which, from its frequent duſky appearance, and tendency to gangrene, comes under the ſame denomination. It is ſomewhat hard and round, and in aged perſons, or vitiated habits, inflames to a conſiderable extent. The part forms into a looſe, corrupt ſubſtance, with ill-conditioned matter, and is frequently a fatal preſage to thoſe who are far advanced in life.

Cause. Carbuncles generally ſpring from a putrid or putreſcent ſtate of the juices.

Cure. As this ſpecies of inflammation is much diſpoſed to gangrene, the moſt proper treatment is that which is directed under that article. In the ſtrong plethoric habit, early in the diſeaſe, a moderate bleeding, and a gentle doſe or two of cooling phyſic, may tend to regulate the habit, and prevent its progreſs. In languid conſtitutions, the bark, ſerpentary, and vitriolic acid, are of the greateſt uſe.

It has been a practice, to cut out, at different times, as much of the ſloughs and diſeaſed parts as could be removed with eaſe and ſafety: but ſuch treatment ought to be chiefly confined to the central part of the tumour. The ſurgeon who is converſant in ſuch caſes, knows well the neceſſity and utility of preſerving the teguments around as much as poſſible, notwithſtanding their flaccidity and rather gangrenous tendency; for when the ſubjacent parts are too freely expoſed to the air, they are apt to form eſchars, inſtead of forward ſuppuration; beſides, although the appearances are threatening to a great extent, yet, with the uſe of the cortex, proper regimen, and the ſuppurative or mixed cataplaſm, the ſore is ſometimes to be brought within tolerable bounds; after which, ſhould the teguments remain looſe around the ſore, a ſoft compreſs and gentle bandage will moſtly aſſiſt their union.

Strong

Strong ſtimulating applications are here alſo to be avoided: the poultices with white bread and milk, and ſtrong beer lees with oatmeal, by themſelves, or mixed with due proportion, according to the aſpect and irritability of the ſore, are moſt proper; together with the mildeſt dreſſings next the ſore.

FURUNCULUS, OR BOIL.

Description. It is a ſmall, circumſcribed tumour, ſituated in the ſkin and cellular membrane; it riſes to a point, and is attended with inflammation and pain. It ſhews itſelf in all parts of the body, and at all ages; commonly maturates in a few days, and ſometimes caſts out a ſlough, and heals without much trouble.

Boils are ſaid to be wholeſome; in a moderate degree, they may be a relief to the habit, otherwiſe they become oppreſſive, and the efforts of nature alone are too weak to overcome the ill.

Cause. It proceeds from an acrid lymph, or vitiated bile, produced from error and irregularity of diet. Tumours of this kind are extremely apt to form when the digeſtive faculties have been impaired by illneſs, and the appetite has been too much indulged.

Cure. The emollient cataplaſm, or a plaſter of diachylon with the gum, are the moſt proper applications to render ſuppuration complete; afterwards white cerate ſpread lightly upon lint; or the precipitate medicine, if foul and ſloughy. A gentle doſe or two of purging phyſic will be proper; and, ſhould the habit be greatly affected, the bark and vitriolic acid will be neceſſary.

There is a ſpecies of furuncle which ſeamen and fiſhermen are more particularly ſubject to; they call it a water-boil. This tumour riſes hard; the inflammation is of a deeper red than common, and ſpreads wide around; during the ſuppuration, the ſurface

grows ſpongy, and a browniſh, bloody matter, which forms underneath, may be preſſed out at various openings. In that ſtate it is often neceſſary to remove the whole ſurface, which will be beſt effected by a dreſſing or two with red precipitate powder, alone, or mixed with white cerate; afterwards, dreſs as in common, guarding well againſt fungus, with lunar cauſtic or blue vitriol.

PARONYCHIA, OR WHITLOW.

Description. It is an inflamed and very painful tumour, and may be diſtinguiſhed into two kinds. The one generally penetrates no farther than the common integuments round the nail; the other begins deep, and fixes upon the perioſteum and root of the nail. Sometimes the diſeaſe extends to the ligamentous covering of the firſt joint of the finger and the capſule of the tendon; in which caſe the whole hand and arm become greatly ſwelled and painful. Both kinds are attended with fever, reſtleſſneſs, and throbbing pain; in the deep-ſeated whitlow, the inflammatory ſymptoms have run ſo high, as to occaſion delirium, and even convulſions, and the bone has very ſoon proved carious.

Causes. This complaint is produced by bruiſe, wound, or puncture, or by an acrid lymph ſtimulating the nervous or membranous parts; and is more or leſs dangerous and ſevere, in proportion to its depth, and the ſenſibility of the parts affected.

Cure. Poultices and drawing plaſters, as they are called, are generally applied as ſoon as poſſible; but, in the early ſtage of the diſeaſe, bleeding, and the cool regimen, with a doſe or two of cooling phyſic, conſtant application of compreſſes moiſtened with the ſaturnine ſolution, or the ſharpeſt vinegar with a due proportion of ſal ammoniac, have often ſtopped its progreſs.

If,

If, notwithſtanding the uſe of thoſe remedies, the pain ſhould increaſe, it will be proper to apply the emollient poultice, ſpread thick and warm, every three or four hours; ſoaking the part well beforehand, in a warm decoction of mallow leaves, or chamomile flowers, with milk. In both kinds it will be improper to wait for perfect maturation, before an inciſion is made down to the part where the matter appears to be forming.

In the deep-ſeated whitlow, which is attended with exquiſite pain, an inciſion ſhould be made in due time, through the ligamentous expanſion, or down to the bone on one or both ſides of the finger, ſo as to releaſe the moſt ſtrictured part, previous to ſuppuration. Dreſs with lint, dry, or ſpread with cerate gently preſſed, at firſt, between the lips of the inciſed wound; and continue the poultice. Opiates will be occaſionally neceſſary.

In the mild ſort of Paronychia, a troubleſome and tender fungus frequently ſprouts up along the ſide of the nail; which is moſtly remedied by preſſing a ſmall piece of dry lint under the edge of the nail, between that and the fungus: ſometimes it is neceſſary to uſe eſcharotics; but theſe have little effect, unleſs lint be firſt preſſed underneath the edge or corner of the nail, which part ſhould be cut away as cloſe as poſſible, without touching the quick.

BUBO AND PAROTIS.

Description. An inflammatory tumour ſeated in the glands of the groin or armpit is called a Bubo; if behind the ear, or on or near the parotid gland, Parotis. It is generally of an oval or roundiſh ſhape, is red, painful, and throbbing, tending either to maturation or ſcirrhoſity.

The venereal bubo is generally oblong in ſhape, has an unequal ſurface, and a broad extended baſe; either reſiſts preſſure, as in ſcirrhus, or retains im-

preſſion, as in the œdematous and ſuppurative bubo; which ſymptoms are ſufficient to diſtinguiſh it from Hernia.

Causes. The ſimple or milder ſort is critical, and often happens after a fever, when the morbid fomes has not been totally diſcharged from the habit. The malignant bubo is the accompaniment of venereal or peſtilential diſorders, and the conſequent of a diſeaſed habit.

Cure. In tumours of this kind, when not produced by any internal diſeaſe, the cure may be firſt attempted by diſperſion; which treatment is mentioned under the article Inflammation: to forward which purpoſe, a doſe or two of Calomel with Camphor, ſucceeded by a gentle cathartic, has been found of great uſe. If the pain and ſwelling ſhould increaſe, apply ſuppurative means, and open by inciſion.

In peſtilential buboes, maturation muſt be haſtened by the moſt probable means, and the matter ſhould be diſcharged by inciſion as ſoon as poſſible. Vide Gangrene.

With regard to thoſe of the venereal kind, when they are not too far advanced, that is, not beginning to ſuppurate, diſperſion is the moſt eligible mode of cure; which is to be brought about by bleeding, gentle cathartics, Goulard's water, or ſal ammoniac diſſolved in vinegar, or friction with mercurial ointment. If diſperſion ſhould be effected in a later ſtage of the diſorder, it will be proper to perſevere in an alterative courſe for a few weeks. Should diſperſion not ſucceed, apply ſuppurative plaſters or poultices, and order a more generous diet, open by cauſtic, and compleat the cure by an alterative courſe. In the cure of a venereal bubo then, it is neceſſary to treat it according to the ſtate of infection from which it proceeds; if local, it may be either diſperſed or brought to ſuppuration; but if of the latter ſtage, every means ſhould be uſed to produce maturation;

thoſe of long and ſlow progreſs are apt to form phagedenic ulceration with callous edges, and a part commonly remains in an indurated ſtate.

Sometimes the ſore remains obſtinately bad, although the virus has been perfectly eradicated; the edges grow hard and livid, the diſcharge is ſharp and fœtid, and the ulceration ſpreads conſiderably, ſo as to reach the inferior part of the abdomen, and upper part of the thigh. The pain then is intolerable; and fever, reſtleſſneſs, and a train of terrible ſymptoms, ſoon reduce the patient to a mere ſhadow.

The moſt approved method of proceeding in this dreadful ſtate of ulceration, is, to give daily a quart of the mezereon decoction, opium repeatedly, in ſufficient doſes to allay the pain and extreme irritability of the ſyſtem, and to adminiſter the bark in quantity. Externally, to apply lunar cauſtic to the irregular edges and indurated parts, or red præcipitate in powder or mixed up with a ſoft ointment, to the whole ſurface of the ſore. An ointment compounded of one part prepared calomel, and four or five parts of white cerate, has ſometimes proved efficacious in this ſtate of ulceration.

PERNIO, OR CHILBLAIN.

Description. The kibe, or chilblain, is an inflammatory tumour, ariſing from the part affected being expoſed to ſevere cold, or, when very cold, being too ſuddenly heated. It is attended with redneſs, heat, ſhooting pain, and itching. It moſt commonly affects the hands and feet, particularly the heel; the ears, noſe, and lips, are alſo ſubject to it, and in ſome habits, the arms and legs are much ſwelled and cracked with it. This diſorder chiefly affects children of a delicate complexion, or thoſe of a ſcrophulous habit.

The

The parts affected frequently wear a leaden colour, become inflated, and veſicate after the manner of ſcalds and burns; which veſications ſometimes form into deep ulcers, that diſcharge an ill-conditioned matter, and by neglect or miſmanagement have degenerated into gangrene.

Causes. Cold, and a languid circulation. This complaint is in greater or leſs degree according to the ſtate of the conſtitution, or the intenſeneſs of the cauſe. It often takes its riſe with children, from the part being wet and cold, and too haſtily dried by the fire; alſo, from ſitting upon a hard ſeat too long together.

Cure. Bathing with camphorated ſpirit, or applying cloths dipped in ſaturnine lotions, have often diſperſed this complaint, even after veſications had made their appearance. The beſt applications when ulcerated, are, the yellow cerate, ſaturnine ointment, and cream inſpiſſated with Goulard's extract.

When a part is benumbed with cold, the fire or immediate warmth are to be avoided: inſtead thereof, plunge it into cold water, or apply cloths dipped therein, or chafe it with ſnow, until a proper glow is returned; after which, uſe friction, cordials, and diluents. In ſuch a caſe, a ſudden tranſition to heat, a warmed bed, or a warm room, would be attended with great danger to the part affected.

BURNS AND SCALDS.

Description. Theſe are ſubject to the ſame events as inflammation, and may be divided into four different degrees or ſtages: when the part is affected with heat and inflammation without veſication; when it is immediately afflicted with intenſe pain and veſication; when the integuments are ſo injured, as to produce a deep eſchar; and when the whole is in a gangrenous or lifeleſs ſtate.

CAUSES, are fire, or a heated body, either in a ſolid or fluid ſtate.

CURE. Burns and ſcalds differ in their degrees of inflammation, and are to be treated accordingly. The firſt and ſecond degrees require reſolvent applications; the third, emollients and ſuppuratives; the fourth and laſt degree ſhould be treated after the ſame manner as directed for gangrene and ſphacelus.

Bleeding and cooling purges, with nitre and plentiful dilution, are the firſt things to be attended to in burns and ſcalds of great importance: it is alſo neceſſary to obſerve a regular and cooling diet. Such means, properly purſued, in the firſt ſtage, have an exceeding good effect in the proſecution of the cure. Opiates alſo ought to be adminiſtered according to the degree of pain.

Spirit of wine and camphor applied quickly to a burn or ſcald, is ſaid to prevent veſication; a likely application for that purpoſe is Goulard's vegeto mineral water; immerſion in cold water, or other cold fluids, is alſo recommended; and cloths dipped in, or poultices mixed up with, Goulard's water and his ſaturnine cerate, are preferred by ſome.

Some practitioners are for, others againſt, diſcharging the acrid lymph from the bliſters. In the ſmaller kind it is not unlikely to be abſorbed; but in the larger, it will be better to let it out, by making a ſlight puncture at its edge, in the moſt depending part; by which means the veſicle, when emptied and lightly preſſed down, will act as a defenſative againſt the external air.

When the part is ſo much burnt as to form a deep eſchar, emollients are the moſt proper applications: of which claſs the firſt in order is the common bread poultice mixed with a ſmall quantity of bland oil.

Great care muſt be taken to keep down fungus, and prevent contractions and agglutinations which are too often the conſequences of theſe complaints, by

means of lint medicated with vitriol water, or by keeping the edges down with blue vitriol or lunar cauſtic; and when the fingers or ſome other parts are affected, paſteboard with proper bandage will be neceſſary to keep them extended and ſeparate from each other.

In burns and ſcalds of conſiderable extent, the diſcharge is often ſo great as to require a liberal uſe of the bark and elixir, or ſmall ſpirit of vitriol. Milk mixed with lime-water is an excellent abſorbent on ſuch occaſions.

When the inflammation is ſo great as to threaten gangrene or mortification, proceed according to the directions given under thoſe articles, when ariſing from exceſs of inflammation.

The following treatment was communicated by Mr. David Cleghorn, a conſiderable brewer in Edinburgh, to the late Mr. J. Hunter, as having been remarkably ſucceſsful, and is publiſhed in Dr. Simmons's Facts and Obſervations, Vol. II. In recent caſes, he applied cloths profuſely wetted with vinegar, or a conſtant flow of that liquor, over the injured parts. When ulceration had taken place, he applied a common poultice with white bread and milk for ſix or eight hours, then covered the ſores with chalk finely ſcraped off a lump of that ſubſtance, in ſufficient quantity to abſorb the moiſture; and a poultice, of the ſame kind as before, over the whole; but if the ſkin and parts around were ſoft and much ſodden, he uſed the ſaturnine ointment, or Goulard's cerate, inſtead of the poultice. The large veſications he emptied by puncture, with a pin or the point of a lancet, at the moſt depending part; and preſſed down the raiſed cuticle with a piece of fine linen cloth. After having thus diſcharged the water, he applied the vinegar as before, and repeated the dreſſing night and morning. Where the parts were raw, and the vinegar proved too ſharp, he covered the ſore with the cerate; then wetted it round with

vinegar, for a quarter of an hour or longer; and, on removing the ointment, applied the chalk and poultice as before mentioned. He alſo let out the contents of every puſtule, and took off the cuticle as it dried, taking care to cover every moiſt part with the chalk. Some habits are certainly too irritable to bear the application of vinegar repeatedly; cold water will probably have equal good effect. An inſtance is known of a man falling into a copper of hot wort, who was ſtripped, and, almoſt immediately after the accident, plunged into a tub of cold water that happened to ſtand near; he recovered with ſcarcely the appearance of a bliſter; beſides, vinegar in ſuch a caſe is not to be procured ſo eaſily, or ſo readily as water; yet the former may be better adapted to a dull fibre, or ſluggiſh habit.

HERPES, OR CREEPING ULCER ON THE SKIN.

Description. This is a cutaneous diſeaſe, attended with inflammation, and may be divided into four claſſes.

The firſt is called *Farinoſus*, and is commonly called a *Tetter*. It breaks out about the face, neck, arms and wriſt, in ſmall red pimples, and in the form of a broad ſpot; it itches much, and the pimples change in a ſhort time to a branny powder, leaving the ſkin quite ſmooth.

The ſecond is named *Miliaris*; it generally breaks out in cluſters or rings of puſtules. They contain a clear, corroding lymph, which is gradually diſcharged, and afterwards form into ſmall ſcales; they ſmart and itch much, and are attended with inflammation; ſometimes erode the ſkin, and ſpread conſiderably; but the latter circumſtance ſeldom happens, unleſs in a vitiated habit. This kind is called a Ringworm.

The third ſort is the *Puſtuloſus*; it appears in puſtules containing a thin, ſerous matter, which turns

turns yellow; they commonly run together, exude and dry into a ſcab, which falls off, and leaves the ſkin entire. Sometimes the matter is ſo acrid as to excoriate the parts around the ſcab, and ſpread the complaint. Children are very ſubject to this kind of eruption, particularly in the face, head, neck, and behind the ears.

There is an obſtinate eruption of this kind, which ſhews itſelf on the ſides and palms of the hands, and ſoles of the feet, alſo between the fingers and toes; it has much the appearance of an inveterate itch, and has ſometimes been removed by ſimilar means.

The fourth claſs is called *Exedens*; it appears in ſpots of ſeveral ulcerations, diſcharging a ſharp ichorous matter, and is attended with an eryſipelatous inflammation: this ſometimes corrodes the cellular membrane, and even the muſcles. It ſpreads generally about the neck, cheſt, and waiſt, in form of a zone or girdle, and when it fixes about the loins, is called the ſhingles: pain and fever commonly attend this eruption at its firſt appearance.

Causes. This complaint frequently yields to external applications only; it is therefore conſidered by many to be local, from a partial obſtruction and acrid ſtate of the perſpirable matter: yet ſome obſtinate caſes have been held forth, as proofs of a pre-exiſtent acrimony in the conſtitution.

Cure. The *farinoſus* generally yields to warm-bathing and friction; the ſecond and third kinds, viz. *miliaris* and *puſtuloſus*, ſubmit moſt commonly to ſaturnine preparations, the camphorated vitriolic water, white præcipitate ointment, warm bathing, and gentle perſpiratives, ſuch as wine of antimony with paregoric elixir, and decoction of ſarſaparilla with ſaſſafras: when the parts inflame much, nitre or cream of tartar, with gum arabic, will be proper. The following liniment has proved effective in an obſtinate caſe of the puſtuloſus kind:

White præcipitate ointment, one part; ſulphur, three parts; ſimple ointment, twelve parts. Mix, and lightly ſmear the parts with it, night and morning.

A weak aqueous ſolution of corroſive ſublimate, in the proportion of from five to ten grains to a pint of water, is recommended by ſome as an effectual waſh in moſt of theſe complaints; but it ſhould not be applied in the inflammatory ſtate. In all ſuch diſorders, the moſt ſimple and uſeful remedy is fœnugreek ſeed finely ſifted, covered or not with white cerate ſpread upon rag.

If the fourth ſpecies of this diſeaſe ſhould reſiſt the before-mentioned remedies, it is moſt probably contaminated with a morbid ſtate of the lymph. Mercurials, bark, and antimony, will then be proper, according to the nature of the habit.

Scarborough water is of uſe in theſe diſorders. Sea-water is alſo preſcribed, and ſea-bathing; but are moſt beneficial when free from inflammation or fever.

Provided the laſt ſpecies of eruption be attended with fever, pain or inflammation, ſickneſs and languor, which ſymptoms often occur in eryſipelatous habits, cold repellents ſhould be cautiouſly applied; in ſuch caſe, fœnugreek ſeed, finely powdered, is the moſt ſuitable external remedy.

ULCERS IN GENERAL.

Description. An ulcer is a ſore in the ſoft parts, attended with a loſs of ſubſtance; from which iſſues a purulent, ſanious, or vitiated matter. It may be divided into three claſſes; viz. the ſimple, the compound, and the complicated.

The *Simple Ulcer* is that which diſcharges a whitiſh pus of a moderate conſiſtence; and is commonly in that ſtate of purity to which all others muſt be reduced,

reduced, before they can be properly cicatrized. It is a local affection, unconnected with conſtitutional diſeaſe, and is ſeldom attended with any remarkable incident during the progreſs of its cure.

The *Compound Ulcer* is alſo local; it is attended with a variety of circumſtances, and receives various appellations from the different conditions of the ſurrounding and ſubjacent parts; alſo from the nature and quality of the diſcharge; but the principal diſtinctions neceſſary to be obſerved in this claſs, will appear under the following deſcriptions.

The *Fungous Ulcer*; which throws out a ſpungy, high-growing fleſh, in appearance like a prominent cancer: this exuberance riſes flabby and ſoft, but by length of time acquires a conſiderable degree of hardneſs.

The *Sinuous*, or *Fiſtulous Ulcer*, having one or more openings lying between the common integuments and muſcles, that diſcharge themſelves into the common ſore: theſe in the recent ſtate are called ſinuſſes; but when of long ſtanding, and the ſurface of the hollowneſs is grown hard or callous, they conſtitute what are called fiſtulæ.

The *Callous*, or *Phagedænic Ulcer*. This is commonly called a *Scorbutic Ulcer*; paupers are particularly ſubject to this kind of ulcer. The filthy, ichorous diſcharge of this ſore, occaſions its edges to turn in, to ſkin over, and grow thick and hard. Ulcers that arrive at this pitch of calloſity, are moſtly accompanied with varicoſe veins; on which account they were formerly called *Varicoſe Ulcers*; on a ſuppoſition that the tumid veſſels were the cauſe, inſtead of the effect of thoſe hard edges.

The *Carious Ulcer*. It is thus called, when the bone near an ulcerated part is diſeaſed; which may be known from its ſpungineſs and inequality, and by the thin, oily, and fœtid matter. A roughneſs on the ſurface of the ſubjacent bone is alſo to be perceived, by paſſing the probe through the looſe fleſh,

which

which generally covers it. In ulcers of long ſtanding, where the bone is thinly covered, the matter is apt to erode the perioſteum, and injure the ſurface of the bone. Sometimes the diſeaſe forms in the bone itſelf, when it is termed a Spina Ventoſa: this is known by the enlargement of the bony ſtubſtance, and an irregular thickneſs in the integuments, and cellular membrane. When an ulcer of this kind firſt breaks out, it commonly appears with a pap-like fungus. Bones are ſometimes enlarged without being carious, or tending thereto; and a thickneſs of the perioſteum has been often miſtaken for an enlargement of the bone.

The *Complicated Ulcer*, by which term is meant, that claſs of ulcers which is connected with ſome prevalent diſeaſe in the conſtitution, and is liable to the various incidents of thoſe of the ſecond claſs: of this kind, the principal are, the venereal, ſcorbutic, ſcrophulous, and cancerous; which laſt is conſidered by ſome as being local, in its firſt ſtage at leaſt. Theſe ulcers, with their characteriſtic marks, are ſeparately treated of in the ſequel.

Causes. The cauſes of ulcers of the firſt and ſecond claſs, are, wounds, contuſions, &c. producing inflammation, and ending in abſceſs, or loſs of ſubſtance. The third claſs is particularly circumſtanced by a prediſponent cauſe in the habit, which has ſhown to, or produced it.

Cure. The *Simple Ulcer* commonly heals without trouble; the firſt thing neceſſary, is to permit the granulations to riſe even with the ſurface of the ſkin, which is generally the work of nature alone: during this proceſs, there can be no better dreſſing applied than a pledgit of lint, dry, or ſpread very thin with white cerate; for in this, as in moſt other ſtages of the ſore, the mildeſt dreſſing has the beſt effect. Should the diſcharge be rather thin or acrid, or a foul appearance be over the ſurface of the ſore, it will be proper to add a little red precipitate to the cerate;

cerate; but, ſhould that prove ineffectual, the poultice with bread and milk, applied in contact with the ſore for a day or two, will beſt anſwer the intention of cleanſing it, more eſpecially, when the parts around are much inflamed.

When all is clean and even, dreſs with pure white cerate ſpread thin on lint or fine ſoft rag, and apply a piece of ſoft doubled rag over all, with a ſlightly compreſſive bandage. When a fungus ſprouts, the edges muſt be kept down by a light touch with blue vitriol, or lunar cauſtic.

In ulcers of the leg attended with œdematous ſwelling, varicoſe veins, or inclining to fungus, the bandage ſhould be applied in a ſpiral manner; each edge not exceeding the diſtance of three quarters of an inch, or rather leſs; beginning, if in the leg, with a turn or two round the foot and ankle, and gradually rolling upward, to the extent of the ſwelling or parts affected about the ſore: by this means only, the ulceration has often been brought to a healing ſtate, when the ſore has not been diſpoſed to fill up. In ſhort, experience ſays, that many an ill-conditioned ulcer has been cured by the repeated application of the Camphorated Vitriolic Water and bandage, without confinement, or paying attention to antient maxims or method. This truth can be atteſted by many poor labourers who had loſt employment by confinement to their beds, and paſſed through a mercurial courſe, and the tedious uſe of ſtrong digeſtives, eſcharotics, greaſy balſams, &c. &c. to very little effect.

The *Compound Ulcer* is attended with many circumſtances that require peculiar treatment; it will therefore be right to notice each according to the order in which it has been already deſcribed.

The *Fungous Ulcer*. Inveterate funguſſes very ſeldom appear on this claſs of ulcers. In leſs important caſes, mild eſcharotics, and lunar cauſtic, with dry lint, or lint moiſtened with a ſolution of blue

vitriol and dried, and proper bandage, are likely to have due effect. When the excreſcence is conſiderable, and with a narrow baſe, extirpation by ligature will be eaſily effected; if with a broad baſe, the following means muſt be uſed for that purpoſe; paſs a ſtrait needle with an eye at the point, armed with two ſtrong ligatures, through the bottom part, ſo that the threads may be made to hang out at each ſide of the fungus; one half of it may then be encompaſſed by one ligature, and the other half by the other, with a ſlipping knot; ſo that each may be occaſionally tightened; by which means the tumour will be ſoon ſeparated. Afterwards dreſs as before directed.

Extirpation by ligature is generally preferred to exciſion, on account of the hæmorrhage that moſtly follows the latter means. If the fungus ſhould happen in a leucophlegmatic ſubject, or in an ulcer with caries, it will be to no purpoſe attempting cure without repairing the conſtitution, or removing the diſeaſed part of the bone. Fungus is a frequent attendant on relaxed habits, and requires tonics to reſtrain it.

The *Sinuous* or *Fiſtulous Ulcer*. Sinuſſes moſtly ariſe, in abſceſſes and ulcers, for want of a free outlet of the pus, particularly when it is of a ſanious, ichorous nature: ſuppoſing the application admiſſible, an union is ſometimes brought about by compreſs and bandage. When the matter is confined, and the teguments on the oppoſite ſide ſhew an inclination to break out, a counter opening ſhould be made without delay.

The modern practitioners make very little uſe of vulnerary and eſcharotic injections; ſuch applications rather harden and extend the ſinuſſes. When they run ſo deep that the knife or biſtoury cannot be ſafely uſed for fear of injuring a nerve, tendon, or blood-veſſel, a ſeton ſhould be paſſed through the principal ſinus, if poſſible, after the manner directed

under

under the article *Maturation*. Indeed, where the ſeton is admiſſible, it is to be preferred to inciſion, except in the callous fiſtula.

The common treatment of a fiſtula is much more ſimple now than in former times, when it was the practice of moſt ſurgeons to remove the teguments in every caſe; whereas one inciſion generally ſuffices, except when the ſurrounding parts are greatly diſeaſed, or in a ſcirrhous ſtate.

The *Callous* or *Phagedænic Ulcer*. The acrid diſcharge, the foul ſtate of the ſore, and bad management, are the cauſes of the troubleſome incident which diſtinguiſhes this kind of ulcer. In the recent ſtate of it, emollient poultices, duly repeated, have had the deſired effect. When the edges have acquired an extraordinary degree of hardneſs, the knife and cauſtic are recommended; but both theſe painful means have been rendered unneceſſary in ſeveral inſtances, by applying narrow ſtrips of rag ſpread thin with white cerate, alone, or mixed with red præcipitate, round the edges, a doubled rag dipped in camphorated vitriolic water, and ſqueezed moderately dry, laid over the ſore, a thin linen compreſs over all, and the ſpiral bandage before directed. It is proper to dreſs thus twice a day, on account of the quality and quantity of the diſcharge; or, on the contrary, becauſe the dreſſing grows dry, and hangs to the ſore. In irritable habits, it will be neceſſary to dilute the ſolution at leaſt with one third water.

If the ulcer be inflamed and very foul, a few applications of the bread poultice will be neceſſary; and when clean and dry, it will not be amiſs to vary the dreſſing, a few times, with white cerate, ſaturnine ointment, or the like.

If, notwithſtanding, the cauſtic or knife ſhould be thought neceſſary, the firſt is to be preferred. The hardeſt edges have been removed, by lightly rubbing them with lunar cauſtic, once in a day or two, and afterwards dreſſing with lint or a ſtrip of rag ſpread with

with the cerate, or with ſaturnine ointment. Provided the ulcer has diſcharged copiouſly before, it will be proper, at the firſt attempt towards cure, to open an iſſue in the thigh, to order a dram of bark in powder to be taken three times a day, and to repeat, at proper diſtance, a pill with calomel and camphor, each three grains, and half a grain of opium for three nights ſucceſſively, and a purge on the morning after the laſt pill: the pills and purge ſhould be repeated weekly, if the patient can bear it. Varicoſe veins are to be remedied by the long-continued application of the ſpiral bandage, or the laced ſtocking.

The *Carious Ulcer*. The cure of this ſore depends upon removing the diſeaſed parts of the bone; to promote which, it will be neceſſary to make a crucial inciſion over the part which covers the bone, or to lay the bone bare with the knife or cauſtic; taking care to prevent the teguments or fleſh from ſpreading over the expoſed part, by dreſſing with lint, lunar cauſtic, and ſlight bandage, until the decayed part of the bone be ſeparated; then healing according to the ſtate of the ulcer.

The moſt likely means to haſten exfoliation are, ſlight perforations on the diſeaſed part of the bone, with the perforator; or, when the diſeaſe reaches deep into the ſubſtance of the bone, with the ſmall head of the trepan. The actual cautery was once thought the moſt probable means; but it evidently tends to injure the riſing granulations which generate between the dead and the living parts, and are neceſſary agents towards exfoliation. If the caries ſhould reach the head of a bone, and great diſcharge and waſting of fleſh ſhould enſue, the chief and perhaps the only remedy would be amputation.

A caſe is recorded wherein the whole ſubſtance of the tibia has been caſt out, and formed anew; and we have lately been informed of inſtances where a part, and even the whole ſubſtance of a cylindrical bone

bone which was carious, has been taken away by means of the crown of the trepan, or ſawed off, and followed by a perfect cure. Certain proofs theſe, that amputation is not always neceſſary in caſes of this kind, provided the carious part can be ſafely removed, and the patient's conſtitution and ſtrength are not too much impaired: alſo, when the diſeaſe does not extend to the necks and heads of bones, or the cavities of the joints; yet even in the latter caſe, Nature, with the aſſiſtance of internal remedies, has unexpectedly produced a cure.—Vide Spina Ventoſa.

GENERAL REMARKS.

The attempt to cure even ulcers of the firſt and ſecond claſs, is ſometimes vain, unleſs aſſiſted by regular diet, and internal remedies; eſpecially when the diſcharge is great, and the conſtitution is relaxed and weak: in ſuch inſtances, the bark and a generous diet are of infinite uſe.

In foul ulcers of the Phagedænic kind, when the diſcharge is ichorous and fœtid, the bark, ſublimate ſolution, with decoction of the woods, or infuſion of ſaſſafras ſhavings, are abſolutely neceſſary. If the ſore wears a putreſcent aſpect, all preparations of mercury ſhould be laid aſide, and the ſame remedies ſhould be preſcribed, as for the ſcorbutic ulcer; which ſee.

Ulcers of long ſtanding are difficult of cure; and in aged perſons, the conſequence of ſuch cure is ſaid to be dangerous; but with the interpoſition of an iſſue or two, proper medicines and diet, many a one has been reſtored to the perfect uſe of their limbs, and a better conſtitution, by being cured: for it is beyond a doubt, that a ſore with a large ſurface and great diſcharge, can be little conducive to the health of any one; on the contrary, much foulneſs muſt be abſorbed into the habit, and the ſtrength will be impaired.

People

People of all ages have been cured of ſuch ulcers by empirics, without the leaſt attention to evil conſequences, and have enjoyed many comfortable years in the healed ſtate; which clearly proves, that it is not ſo dangerous to heal an obſtinate ulcer as it is imagined, and that the caution obſerved in doing it, is not always requiſite: ſtill, in moſt caſes of long ſtanding, wherein the diſcharge has been great, the wary practitioner is much to be commended for endeavouring to inſure ſucceſs upon the ſafeſt and ſureſt grounds, by putting his patient under a ſlight courſe of alteratives, bark, and a proper regimen.

The following method of cure is recommended from long experience, and has had almoſt immediate good effect in every kind of compound ulcer, except the carious. If, from the acrid quality of the diſcharge, the parts be much inflamed and painful, it will be neceſſary, for a day or two, after ſponging them well with a ſlight infuſion of chamomile flowers and milk, to apply the emollient poultice with white bread and milk, or Goulard's vegeto-mineral water, which is leſs relaxing than milk, and to give an opiate at night, and a gentle laxative in the morning, if neceſſary.

As ſoon as the painful ſymptoms are relieved, an iſſue is to be cut in one or both thighs, according to the quantity of diſcharge from the ulcer, a piece of ſoft rag doubled, the ſize of the ſore and parts affected, and moiſtened with the camphorated vitriolic water, is to be applied, and over it a thin compreſs of ſoft rag; then the part is to be rolled up in a ſpiral manner, as directed in the compound ulcer, with a roller made of ſoft linen, or fine Welſh flannel. It will be now and then right to guard the edges with very narrow ſtrips of fine rag, thinly ſpread with white cerate, otherwiſe the medicated cloth may adhere to them, and retard the cure: and it will alſo be neceſſary, on account of the quantity or bad quality of the diſcharge, to dreſs twice at leaſt,

in

in the twenty-four hours. Lenient and cooling applications, ſuch as Goulard's vegeto-mineral water, the ſaturnine ſolution, the emollient and ſaturnine poultice, and white cerate, may be occaſionally interpoſed.

In ſome caſes, where the ulcer is obſtinately foul, a piece of ſoft rag, once doubled, or a ſlice of the crumb of ſtale white bread, gently moiſtened with a very ſlight ſolution of corroſive ſublimate in water, has, in one night's time, rendered it clean, and in a fit ſtate to proſecute this mode of cure. If the ſore be of the looſe putreſcent kind, the mercurial ſolution will give a blackiſh tinge to the diſcharge, and ought by no means to be repeated: inſtead of it, the remedies recommended for the ſcorbutic ulcer ſhould be uſed. The diet muſt be low or generous according to the immediate ſymptoms, and conſtitution of the patient.

How eaſy and ſimple a proceſs this, in compariſon with what is laid down by former writers upon the ſubject, who have directed us invariably, to digeſt, incarn, and cicatrize; to open ſinuſſes, and remove callous edges; and who have recommended reſt, as the *ſine qua non*, in *every caſe!* whereas, by the foregoing method, many have gradually recovered without ſubmitting to either of theſe injunctions: the general requiſites being, an artificial diſcharge, the ſimpleſt dreſſings, and ſtrict bandage when the ſtate or ſituation of the ulcer will admit: yet ſometimes it has been neceſſary to lie in bed a few days, when the part has been much inflamed: but this has moſtly been requiſite, previous to the commencement of the method here deſcribed.

VENEREAL ULCER.

Description. This ulcer is of two kinds; the firſt includes chancres, and tumours in the lymphatic glands, called buboes, which occur ſoon after the venereal in-

tercourſe; the ſecond, takes in all thoſe ulcers that are the conſequences of a general infection. The chancre of the firſt deſcription makes its appearance in a ſmall ſpot, or a red pointed itching pimple, which turns to a veſicle that diſcharges a viſcid pus, or an eroſive watery fluid; its edges are inflamed and painful, or ſurrounded with calloſity, and it ſpreads and produces ulcers in the neighbouring parts.

Ulcers ariſing from a venereal taint are ſeldom very painful; they commonly happen in parts that are thinly covered with fleſh, and firſt appear in form of a diffuſed copper-coloured efflorescence, which riſes into puſtules, and breaks into a jagged or circular hollow ulcer, with thin reddiſh edges; at firſt, diſcharging a watery, afterwards, a filthy jelly-like greeniſh matter. Thoſe who are accuſtomed to the care of patients labouring under this virulent complaint, can judge poſitively of it at firſt ſight, from the peculiar aſpect of the ſore, and the nature of the diſcharge, in ſpite of the moſt earneſt declaration of the diſtreſſed ſufferer.

The principal ſeats of venereal ulcers are in the groin, after the ſuppuration of a bubo, in the glans penis, frænum, and preputium, the vagina and labia pudendis, which are generally called chancres; theſe are to be met with in both ſtages of the infection: alſo, on the noſe, palate, fauces, uvula, and tongue, on the parts covering the bones of the head, legs, and arms, and in the bones themſelves, all which are the conſequences of ſecond infection.

Causes. Familiar intercourſe with an infected perſon.

Cure. Chancres from the firſt infection ſhould be now and then touched with lunar cauſtic, to prevent abſorption of the matter that iſſues from them, and may be healed with cerate alone, or mixed with red præcipitate, ſpread upon fine ſoft rag. Dr. Saunders recommends a liniment made with

with calomel one part, and ſimple ointment two parts. Some of the army ſurgeons ſprinkle the ſore with calomel alone: but when theſe complaints are obſtinate, fumigation with cinnabar will be moſt effective.

Suppurated buboes ariſing from the firſt infection, after being opened by cauſtic, may be dreſſed like the common abſceſs. If the edges grow callous and uneven, dreſs with mercurial ointment, or red præcipitate ointment, now and then interpoſing the emollient poultice, particularly if the ſore and parts around be inflamed and tender. It is ſometimes neceſſary gradually to deſtroy the ſurface of the ſore, as well as the indurated edges, by repeated applications of the lunar cauſtic, in order to make way for freſh granulations.

Although the moſt learned theoriſts have pronounced theſe ſores, in what is termed the firſt ſtage, to be local, yet a gentle mercurial courſe is always adviſeable. The method of introducing mercury into the habit moſt to be recommended, as being leaſt noxious, and equally efficacious with any other, is by rubbing from one ſcruple to two of the ſtrong mercurial ointment, compoſed of equal parts of lard and quickſilver, into the legs or thighs every night: which conjoined with a decoction of ſarſaparilla and ſaſſafras, or of the woods, by a regular perſeverance, has been known to cure the moſt inveterate diſeaſe.

Various are the noſtrums compounded of this uſeful remedy, *Mercury*, and unaccountable the particular attachments to each; but in ſpite of all myſterious pretenſions, it may be found extremely difficult to prove, that every preparation of this kind will not have the deſired effect, provided the proceſs be regularly and properly purſued, agreeably to the conſtitution of the patient. Some will certainly bear mild, others the moſt acrid preparation, with others a change is neceſſary: but the in-

troduction by friction is moſt likely to ſucceed and agree beſt with weak relaxed habits and tender bowels. A decoction of ſarſaparilla with mezereon greatly aſſiſts; and it is well known that the bark and mezereon decoction has accompliſhed a cure after the uſe of mercury. It may not be amiſs to obſerve, that the external application of mercury is much more likely to prove efficacious, when made in the line of the lymphatic veſſels which lead to an affected gland, than over the gland itſelf.

SCORBUTIC ULCER.

DESCRIPTION. The term ſcorbutic has been applied to various eruptive exulcerations, which are better comprehended under the different ſpecies of Herpes. Many inveterate ulcers in the legs are alſo improperly called ſcorbutic, ſince they have little or no tendency to the regular ſymptoms of ſcurvy.

The real ſcorbutic ulcer yields a fœtid, ſanious, bloody diſcharge, and a looſe ſpungy fleſh riſes from the ſurface and edges of the ſore, which are of a livid colour. With ſeamen, this kind of fungus has been known to ſhoot repeatedly, and to a great ſize; at land, the ſymptoms ſeldom riſe ſo high.

Several of the ulcers in the legs, with which the poor are particularly affected, ariſe from, or are accompanied with, a ſcorbutic ſtate of juices; of which a bloody ſanies lodging on the ſurface, looſe ſpungy gums, and livid ſpots on the ſkin, are true characteriſtic marks.

CAUSES. The cauſes are numerous; living too long together on ſalt proviſions, being expoſed to a moiſt cold atmoſphere, obſtructed perſpiration, foul air, &c. It depends upon a relaxed ſtate of the ſolids, and a certain degree of putreſcency in the fluids. The ulcer which is commonly called ſcorbutic, is frequently occaſioned by a want of nutritious food.

CURE.

CURE. In ulcers proceeding from a putreſcent ſtate of juices, abſtinence from ſalt proviſions, or animal food, is abſolutely neceſſary. The cure greatly depends upon vegetable diet, the antiſcorbutic juices, of lemons, oranges, limes, of ſcurvy-graſs, water-creſſes, celery, &c. Malt infuſion, in the proportion of one of malt, and two or three of boiling water, with or without the addition of a few drops of elixir of vitriol, or the ſmall ſpirit of vitriol, or ſpirit of ſalt, is a powerful remedy: panada boiled with ſuch wort, tamarind water, water mixed with vinegar, cyder, or acidulated with acrid or aceſcent juices; whey, butter milk, vegetables, ſagoe, and oatmeal conſtitute the moſt uſeful and wholeſome diet. The bark with ſpirit of ſalt, or elixir of vitriol, is univerſally proper. In the cold ſcurvy, the warm ſallad herbs, muſtard and horſe-radiſh infuſion, and an infuſion or decoction of bark, with the tincture of ſteel in ſpirit of ſalt, are moſt beneficial.

The moſt effectual external remedies are, a ſlight ſolution of myrrh in barley water, or decoction of bark gently acidulated with ſpirit of ſalt, camphorated vitriolic water, dry lint, or pledgits of it dipped in an equal mixture of tincture of myrrh and honey of roſes, with ſlight compreſs and bandage. If the ulcers be large and painful, a poultice with oatmeal boiled in vinegar and water, or in the infuſion of malt, with a ſmall portion of oil, may be applied over the lint; the carrot, or fermenting poultice, made up with a ſtrong decoction of bark, have been of ſervice; but of all remedies the ſlices of limes or lemons, repeatedly applied to the ſurface of the ſore, are ſaid to be moſt effective, particularly in the putreſcent ſtate; afterwards, dreſs as in common.

The uſe of mercury is improper in the true ſcorbutic ulcer; joined with the bark, it may be uſeful

in what is commonly called ſcorbutic, and unattended with ſymptoms of putreſcency.

SCROPHULOUS ULCER.

DESCRIPTION. Scrophula moſt commonly ſhews itſelf by indolent knots or ſwellings in the glands about the ears and neck, afterwards by indurated tumours in the cellular membrane, about the joints, and in the bones themſelves. The eyelids, lips, and noſe are alſo commonly affected with redneſs, ſoreneſs, and tumour, which with a delicate complexion and ſoft ſkin, are ſtrong characteriſtics of this diſeaſe.

The tumour which this kind of ulcer generally ſprings from, is ſoft, moveable, and ſeldom painful; it proceeds ſlowly to maturation, and ſometimes ſuddenly diſappears, to form on ſome other part. The diſcharge from the ſcrophulous ulcer is firſt, viſcid and glairy, or whitiſh and curdled, afterwards changes to a watery ſanies, and the edges are often much tumefied or thickened. In this diſeaſe, collections of pus have remained a great length of time, without much injury or pain, and the tumour will oftentimes continue indolent many years, 'till ſome new cauſe ſhall bring the part into action.

CAUSES. Bad water, crude aliment, and living in low damp ſituations. It is moſt probably hereditary and endemic, and is undoubtedly connected with weakneſs of conſtitution, particularly affecting the lymphatic ſyſtem.

CURE. The attempt to cure ſcrophulous ulcers will be vain, unleſs the habit is previouſly corrected by internal remedies.—Mercurial and antimonial preparations with the Peruvian bark are chiefly adminiſtered in this diſeaſe. The late Dr. Fothergill preſcribed invariably a grain or two of calomel every night, and from thirty grains to a dram of the bark powdered, or an ounce of the decoction

three times a day. Plomer's pill, the precipitated ſulphur of antimony and calomel, alſo bark and antimony have been ſucceſsfully given.

Drinking ſea-water and ſea-bathing have anſwered well in recent caſes—for which an ounce of Glauber's ſalts diſſolved in a pint or more of water, and taken daily in ſuch quantities as will gently purge, with bathing in river or ſpring water, are good ſubſtitutes. Dr. Mead truſted moſt frequently to the following treatment.

Bark in powder one ounce; cinnabar of antimony finely lævigated two drams; mix and divide into twelve doſes; one to be taken two or three times a day: two or three grains of cinnamon may be neceſſarily added.

A pint or more of a decoction of ſarſaparilla and ſaſſafras taken daily, is an uſeful addition, and a purge with rhubarb and nutmeg, or jalap with ginger ſhould be given once in the week.

Cicuta has been ſtrongly recommended in this and cancerous caſes; but it has not proved ſo efficacious, as the accounts from Vienna gave reaſon to expect. In young perſons, the aged, and infirm, it has been known to injure the nervous influence in great degree: yet is leſs noxious in ſuch habits, when joined with mercurial alteratives. It is neceſſary to begin with ſmall doſes of the Cicuta, and gradually and cautiouſly to increaſe them.

The following formulæ have been given with ſucceſs in a ſtrumous affection of the maxillary and bronchial glands, attended with an obſtinate cough, after a long alterative courſe, ſea-bathing, and a journey to Briſtol, had proved unſucceſsful.

Dried leaves of Hemlock two grains, gradually increaſed to ten; Syrup of Tolu ſufficient to make a maſs for ſmall pills, taken twice a day with three ſpoonfuls of the decoction of bark.

Prepared calomel from one to two grains, ſtorax pill from three to five grains, a pill to be taken at bed time.

After the ſecond week, the decoction was changed for two ſcruples of bark in powder, with the addition of a few drops of the elixir of vitriol, and a few grains of rhubarb occaſionally.

The beſt external applications to this kind of ulcer are, the various ſaturnine preparations; they may be uſed before and after the ſores break, if they wear an inflammatory aſpect. Dry lint is a good abſorbent; and if the edges or parts adjacent be thick and inflamed, dreſs with Goulard's cerate. Fontanels and gentle compreſſion are neceſſary auxiliaries. Mercurial ointment has been ſucceſsfully uſed to reſolve indurated tumours of this kind, which might otherwiſe turn ſcirrhous, and incline to be cancerous. Dr. Gregory in his practical lectures recommends oil of tartar per deliquium, or the ley of tartar, as a powerful ſolvent. Electricity is alſo eſteemed an uſeful external remedy, in that ſtate, by drawing ſparks, or by gradually increaſed ſhocks. A ſcruple or more of burnt ſponge three times a day, and a purge with jalap and ginger once a week, has alſo been known to ſucceed.

Dr. De Haen, of Vienna, extols the following medicine perhaps too highly.

Nihil album two ounces, egg ſhell and ſcuttle ſhell, of each an ounce; ſcarlet cloth, ſix drams; burn them together in a crucible, and reduce to a powder. Half an ounce of it is to be divided into twelve equal parts; one to be taken morning and evening on thoſe days that the purge is not.

The following purge he gives once in ſix days.

Jalap in powder, from a ſcruple to half a dram, root

root of ginger powdered from three to five grains.

Much has been ſaid both for and againſt giving vent to this abſceſs; but when there is no great pain or inflammation nature is generally left to herſelf. One would ſuppoſe that the ſame reaſons hold good in this as in other inſtances, when ſeated near a bone or joint, and that it cannot be improper to diſlodge the matter in ſuch a caſe by a ſmall opening. In large deep-ſeated ſores of this kind, the opening with ſeton is moſt proper, from the like precaution of preventing a free admiſſion of air.

If the ulcers diſcharge an acrid, corroding, oily, fœtid matter, the neighbouring bone is to be ſuſpected. Carious bones in ſtrumous habits are not ſo eaſily aſſiſted as from other cauſes. When the diſcharge and pain do not tend too much to deſtroy the ſtrength and animal functions, ſimple abſorbent applications and ſea-bathing have proved the beſt palliatives, and nature has ſometimes brought forward the cure.

The diet ſhould be of the dry kind, and eaſy of digeſtion; animal food and generous wine, eggs alſo, are proper in this complaint: lime-water and milk, in the proportion of two of the latter to one of the former, have been of uſe towards leſſening the quantity of diſcharge, and drying up the ſore; particularly if joined with the bark. Moderate exerciſe and dry air are alſo neceſſary. Pork, butter, cheeſe, ſmoaked meats, fiſh and high ſauces ſhould be avoided.

The obſtruction and thickneſs of the œſophagus, or what is commonly called the narrow ſwallow, ſometimes ariſes from ſcrophula. This calamitous diſeaſe, if taken in time, may be remedied by a ſlight courſe of mercury by unction, and occaſional purges. A gentle ſpitting of five or ſix weeks,

has proved effective, in two caſes under the Author's care.

SCIRRHUS AND CANCER.

Description. Glandular parts being leſs ſuſceptible of inflammation and ſuppuration than membranous, are moſt ſubject to theſe complaints. The parts chiefly affected with ſcirrhus are, internally, the liver, ſpleen, pancreas, meſentery, and uterus; externally, the eye and eyelid, noſe, lips, tongue, fauces, neck, breaſts, armpits, groin, penis, and teſtis: the lips and breaſt are the moſt frequent ſeats of theſe diſorders.

The ſcirrhus which forms of itſelf, generally begins with a ſmooth, roundiſh, ſlipping knot, ſeldom bigger than a large hazel nut; gradually increaſes, with little or no pain; and ſometimes ſtops in its growth, and continues in an indolent ſtate for many years. That which is occaſioned by external injury, or ſome inflammatory cauſe, is commonly of a larger ſize at firſt, and is at times painful. Should the conſtitution become infirm and injured, which often happens with women, about the time that menſtruation ceaſes, the tumour, eſpecially that which is formed in the breaſt, begins to increaſe, grows harder, more painful, and of an irregular form; the veins, nerves, and neighbouring glands being compreſſed, their functions are impeded. This may be called the *ſecond*, or *ſcirrhus* ſtage.

The *third*, or *occult cancerous* ſtage, is known by a frequent ſenſe of heat and itching, a pricking and darting pain at intervals in and about the tumour, and the ſkin over the part affected loſing its natural complexion. The tumour increaſing, tenſion comes on, and the teguments begin to appear of a ſhining reddiſh colour; in a ſhort time the part is conſtantly afflicted with throbbing lancinating pain, together with the ſenſe of a burning biting heat; the colour changes

changes to a dark livid red, and the veins grow varicoſe and winding.

Now follows the *fourth* ſtage, or *open ulcerated cancer*. The ſkin being eroded, a thin, blackiſh corroſive matter is diſcharged from the ſore, which ſpreads; the edges ſwell, grow inverted, and appear like a compreſſed indurated fungus: the burning cutting pain deſtroys the patient's reſt and appetite; abſorption takes place and contaminates the general ſyſtem; the diſeaſe then ſeizes other parts, the body waſtes, hectic ſymptoms, hæmorrhage, and deliquia follow, with a quick intermitting pulſe, cold partial ſweats, and probably a purging, which, in a ſhort time, produce a long wiſhed-for diſſolution.

Sometimes the matter excavates the indurated parts, forming a deep, irregular, and foul ulcer, with jagged edges; a profuſe hæmorrhage often happens in this deplorable ſtate of the diſeaſe; at other times, the texture of the fleſh is ſo looſe and ſpungy as to form a conſiderable fungus, that bleeds repeatedly and profuſely.

There is alſo another kind of cancer, which makes its attack under the form of a ſcale or cruſty ſcab: this being repeatedly caſt off and renewed, leaves an oozing moiſture on the ſkin, and forms a flat, eroding ulcer.

Venereal, ſcorbutic, and ſcrophulous ulcers, wens alſo, and indurated tumours on membranous parts, will ſometimes prove cancerous.

The danger and ſymptoms vary according to the ſtate of the conſtitution, the particular ſtage of the complaint, and the nature and importance of its ſituation.

Causes. Want of proper food and nouriſhment, external injury, ſudden ſuppreſſion of the menſes or hæmorrhoides, celibacy, ſudden cold, irregularity in the non-naturals, alſo a reception of the cancerous virus into the habit.

Scirrhus

Scirrhus in the liver and abdominal viſcera is produced, by heat of climate, immoderate uſe of ſpirituous liquors, and obſtruction. Scirrhus in the womb, from difficult labour, neglected prolapſus, and conſtipated fæces, and generally manifeſts itſelf after the ceſſation of the menſtrual diſcharge.

Cure. The moſt favourable opportunity for diſſolving the tumour is at the beginning of the ſcirrhous ſtate, an alterative mercurial courſe, with now and then a purge, will then prove effectual; whereas, when the tumour is inorganical, extirpation only will anſwer.

Cicuta has been highly recommended, but has not produced ſo much benefit as was expected: the leaves dried by a gentle heat, powdered, and kept in a bottle cloſe ſtopped, are preferable to the extract. Poultices made with the expreſſed juice or powdered leaves, and mixed up with white bread or linſeed meal, are recommended as ſolvents; but when the tumour s as it were impenetrably hard, extirpation is the only remedy. This operation performed with the knife, has ſucceeded in every ſtage of the complaint, even where the ribs were carious, and the tumour adhered greatly. But how much more eaſy, ſafe, and certain in its effect, would the operation be, were it ſubmitted to in due time; to aſcertain and enforce which, the following hints are here given from a paper written ſome time ſince by the Author of this book, under the title of "*Remarks on the Nature and Treatment of Cancers,*" and publiſhed in the London Medical Journal, vol. v. p. 73.

"What pity it is, that in this diſeaſe, the opportunity of procuring relief is ſo often loſt! ſince in the ſimple, detached, indurated ſtate, exciſion is attended comparatively with little pain, with no danger, and perfect ſucceſs. Terror and falſe hope, in caſes of this ſort, are too often ſuffered to get the better of reaſon and reſolution. Even men of

great

great judgment in the profeſſion have ſometimes flattered themſelves and their patients with the hopes of avoiding an operation, which, in the early ſtage of the diſeaſe, might produce ſo much comfort and ſecurity. To obviate ſuch miſchief, I beg leave to preſent the following hints; they may ſerve to ſhorten the progreſs of an evil, which, if neglected, would be productive of the moſt dangerous conſequences.

"1. In its infant ſtate, when the tumour is round, ſmooth, and not hard to the touch, the diſeaſe *often* yields to a gentle alterative courſe.

"2. When the tumour is large, round, ſmooth, and indurated, it *ſeldom* gives way to that mode of treatment.

"3. When hard, unequal, and attended with pricking pain, it *ſcarcely ever* admits of relief from ſuch means; and I believe *never*, when it has attained what may be conſidered as a *fourth ſtage*; that is, when the tumour is of a ſtony hardneſs, very unequal, and attended with acute darting pains. In this latter ſtage, when the breaſt loſes its natural colour, and the nipple is drawn in, the knife ſhould be ſubmitted to without heſitation: indeed from duly conſidering the progreſs of the diſeaſe, as ſpecified in the foregoing hints, it is certain that the ſafeſt and moſt proper periods for extirpation are in the ſecond and third ſtages."

Scirrhus in conſequence of inflammation has been greatly relieved by electricity, particularly in the breaſt of a woman, and on the teſtis and epididymis of a ſoldier after hernia humoralis. Both caſes had reſiſted every other means under the direction of an able practitioner for near a twelvemonth. Extirpation had been earneſtly recommended, but firmly objected to by both. Several ſtrokes were given through the parts affected every morning, and gradually increaſed to a powerful degree. The teſticle, in about three months, was reduced full two-thirds,

and

and has remained free from much inconvenience for ſeveral years. The tumour in the breaſt was by long perſeverance very much reduced in ſize, and the patient, though at this time paſt fifty years of age, feels no other trouble than a kind of ſtricture about the part.

The open or ulcerated cancer has been treated with ſome ſucceſs by the following means;

Crumb of white bread, or linſeed meal three parts; hemlock leaves powdered one part; mix into a poultice with chamomile infuſion, and apply to the ulcerated, indurated, and diſcoloured part every ſix or eight hours, adding each time a little pure oil.

The freſh leaves may be uſed in leſs proportion during ſummer; and the root of hemlock ſcraped, and beat up with the bread or meal, in the winter time.

The following pills may be given every night at bed time; or ten or twelve drops of the ſublimate ſolution twice a day, with not leſs than half a pint of the ſarſaparilla decoction; a dram of bark alſo is to be taken two or three times daily in a cup of the decoction with milk.

Calomel prepared one grain; camphor, powdered with a drop of ſpirit of wine, three grains; and one or two grains of the opiate pill; ſyrup a ſufficient quantity; to be formed into two pills.

Strained Opium and fine white ſoap, each equal parts; make into a maſs for pills of one or two grains each.

Corroſive Mercury ſublimate, twelve grains; crude ſal ammoniac, thirty grains; ſpirit of wine ʒvj; ſpirit of lavender, two drams. Mix.

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From eight to twelve of theſe drops, with from three to five of tincture of Opium, to be taken in full half a pint of ſarſaparilla decoction mixed with a little milk, twice a day. Each doſe of the ſolution ought to be taken in the quantity of decoction; barley water or gruel here ordered, otherwiſe the bowels will be affected by it, particularly in irritable habits.

If the diſcharge be great, and the ſurface be irregular and ſpungy, the ſore may be fumigated with the following powder:

Gums olibanum, maſtich, and benjamin, each equal parts rubbed well into powder; ſome of it is to be repeatedly thrown upon a heated iron, and the fumes are to be conveyed by means of a proper tube, to the ulcerated part. The ſame proportion of cinnabar has been ſometimes added to advantage.

The lunar cauſtic has been applied with ſucceſs to the incipient cancer, particularly to the flat eroding kind.

In the method herein mentioned, the mercurial courſe is not meant to occaſion the leaſt degree of ſpitting; it may therefore be neceſſary in ſome habits, to relax in its uſe occaſionally, and to throw off its effect on the mouth or ſalivary glands by a gentle laxative or two. The Bark is a neceſſary aſſiſtant to the ſcorbutic or relaxed habit; in ſhort, the courſe is ſeldom perfect without it. It ſhould be underſtood, that only one of the mercurial preparations is to be adminiſtered at a time.

It is a received opinion, that this diſeaſe is originally local; from the favourable change which has almoſt immediately followed the uſe of the foregoing remedies, and from extirpation having been attended with perfect ſucceſs in the worſt ſtage of the diſeaſe, it may be thought ſo in the ulcerated ſtate. When the habit is generally contaminated, is not

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the effect produced by a pre-exiſtent acrid ſtate of the juices, and frequent abſorption of the fœtid ſanious matter, which lodges from time to time on the ſurface of the ſore? If ſo, the true curative intentions are, to correct the habit, and to prevent abſorption; which deſign the means here recommended bid fair to accompliſh, viz. the poultice and fumigation to correct the diſcharge, and prevent abſorption; the bark and mercurials to improve the habit; and the opiate to alleviate pain.

The bark malt infuſion with marine acid, cicuta, and the opiate pill are eſteemed the beſt palliatives internally, and the carrot poultice externally. It may here be allowed to obſerve, that the bark is generally adminiſtered in too ſmall doſes; many an obſtinate intermittent which has defeated the effect of ſeveral ounces of it taken in the uſual mode, has been effectually routed, by giving ſix or eight drams of it, in doſes of two drams, at proper intervals, within the firſt ten or twelve hours of intermiſſion.

Chimney-ſweepers are ſubject to the flat eroding cancer about the privities. It begins with a reddiſh pimple upon the glans, prepuce, or ſcrotum; the dry head of which being rubbed off, the diſcharge erodes the ſubjacent and neighbouring parts. In two caſes of this kind, the cataplaſm with linſeed meal and the root of hemlock, the ſublimate drops twice a day, with a pint and half of the decoction of ſarſaparilla with ſaſſafras daily, proved highly beneficial. In one the glans penis ſloughed entirely off, in the other the diſeaſe began with a bulbous ſwelling behind the glans, the ſuperior part of which was ſoon deſtroyed, together with a part of the corpus cavernoſum. Both the ſores were healed; the firſt perſon quitted the buſineſs, and continued well; the latter could not be perſuaded to relinquiſh the employ, and about the end of three years the diſorder broke out afreſh, and ſoon reach-

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ed the groin and the region of the oſſa-pubis, and formed an extenſive tumour, which put an end to his exiſtence.

Dr. Hamilton, of Edinburgh, is ſaid to have treated a cancerous ulcer of this kind on the ſcrotum and penis ſucceſsfully, by repeated daily immerſions for a quarter of an hour together up to the armpits in the following decoction:

Half a pound of the ſeeds of the cicuta vulgaris tied up looſely in a bag, four large handfuls of the leaves and flowers, to be boiled in ſeven pailfuls (eight Engliſh gallons) of water to ſix, the whole being put into a wooden trough, with twelve pailfuls of cold water added to it, the patient was immerſed up to the armpits for the ſpace of fifteen minutes.—The firſt bathing leſſened the pain; the ſecond leſſened the diſcharge, and changed its appearance from ſanious and fœtid to purulent; and in a month's time he was cured. As the ſore mended, the immerſion was continued longer, up to half an hour or more. The cicatrix was irregular, and aſſumed a purſed up, unſeemly appearance. Doctor Hamilton recommends its uſe in cancerous rectum and uterus, and the application to be made through a long flexible tube by injection during immerſion.

In this diſeaſe, the diet ſhould be particularly attended to; milk, broths, rice, panada, new-laid eggs, ſago, tapioca, and millet, are the moſt proper kinds of nutriment. Salop, cocoa, tea, chocolate, beef tea, aſſes milk, turnips and carrots in their ſeaſon, with every day a moderate meal on freſh beef or mutton, have, in their turns, been the ſubſiſtence of a perſon afflicted with an occult cancer for ten years paſt.

The chief points to be attended to in extirpating ſcirrhous or cancerous tumours are, to preſerve ſuch ſkin as is not diſeaſed, or firmly attached to the ſubjacent parts, to ſeparate the whole of the diſeaſed part from that which is ſound, to remove every in-

durated part in the neighbourhood of the tumour; and, if poſſible, to heal by the firſt intention. The preſent mode of operating and treating tumours of this kind is fully deſcribed under the article, *Diſorders of the Breaſts.*

SPINA VENTOSA.

DESCRIPTION. This diſorder is generally underſtood to be a tumour which takes its riſe in the internal ſubſtance of the bone. It is frequently hard and without pain; ſometimes it appears as if puffed up with air, and is attended with ſhooting, pricking pain, from which indications it has its name.

The ſpina ventoſa differs from a common caries, by being the production of an abſceſs, or diſeaſe in the internal ſubſtance of the bone. It gradually extends itſelf to the perioſteum and common integuments, which cover and lie near the part affected, and in time breaks out into an ulcer of the moſt ſtubborn kind. It may eaſily be diſtinguiſhed from the ricketty ſwelling, as that diſorder more generally affects the habit, particularly about the epiphyſes of the wriſts and ankles, and is attended with irregular tumours without pain. There are alſo ſome other ſwellings in the bones, which remain free from pain and eroſion throughout life.

The ſpina ventoſa is not confined to the cylindrical bones; thoſe of the head, face, back, and cheſt are alſo ſubject to it, although the former are the moſt frequent ſeats of that diſorder. It is moſt injurious when fixed on the heads and proceſſes of bones.

CAUSES. Scorbutic, ſcrophulous, or venereal diatheſis affecting the lamellæ, or medullary ſubſtance of the bone, or injury done to the external veſſels correſponding with thoſe of the internal ſubſtance.

CURE. In the milder ſpecies of this diſeaſe, when it proceeds from external injury, cold applications with

with Goulard's water and the like, have done good in the early ſtage, when it ariſes from a diſeaſed habit, an alterative mercurial courſe, with decoction of ſarſaparilla, or of the woods, together with aſceſcent and milk diet, have reſtrained its progreſs. It ſhould be obſerved that diſeaſe from accidents is generally confined to the external laminæ, and ſeldom produce a deep affection of the cylindrical bones, unleſs there be ſome prediſpoſing cauſe in the conſtitution, which the ſurgeon ought ſtrictly to attend to.

When the incumbent parts begin to be diſcoloured, and are troubled with a pricking pain and burning, an ulcer is certainly forming without ſide the bone; at that time, an opening ſhould be made ſufficient to lay bare the diſeaſed part of the bone; if of moderate extent, a cauſtic may be applied, otherwiſe the knife will anſwer better. Perforations as directed under the article carious ulcer, then become neceſſary expedients; and ſuch dreſſings are to be applied as will tend to abſorb the diſcharge, and reſtrain the fleſh from ſpreading over the denuded part of the bone, until the diſeaſed part be ſeparated, or the diſcharge be dried up.

When the whole of the ſubſtance is diſeaſed, particularly if near a joint, amputation is generally neceſſary; but as M. Le Dran has juſtly obſerved, the operation ſhould not be performed on the bone that bears the diſeaſe.

It has been already noticed that the ſubſtance of the tibia may be caſt out and regenerated, and the ingenious Mr. Park, of Liverpool, has given proofs of the poſſibility of removing the heads of bones, and afterwards healing.

DE NECROSI.

Description. M. Bouſſelin, in his obſervations on this complaint, evidently proves, that in cylin-

drical bones, nature gradually ſeparates the dead parts from the living; and that a portion of bony matter is effuſed, and encloſed by the old dead bone in a kind of caſe; alſo, that by removing the latter when detached, the new bone will connect itſelf with the extreme living ends of the old one, and in proceſs of time, acquire perfect ſolidity.

The marks of this diſeaſe are, acute pain followed by a ſwelling of the ſoft parts, external inflammation, ending in many ſmall abſceſſes, which penetrate into that part where the detached piece of bone is to be felt; a good looking pus, except when complicated with ſmall portions of bone, and free from a black tinge; and an enlargement generally confined to the bony part, and correſponding with the extent of the diſeaſe.

Cure. Monſ. Bouſſelin obſerves, that if the diſeaſe be of long ſtanding, the ſuppuration leſſens, ſeveral portions of bones have paſſed through the ſinuſſes, inflammation diſappear, and the new bone hath obtained great firmneſs; there is great reaſon to conclude, that the dead part of the bone is ſeparated and diſſolved, and that nature has been able to effect the cure, which he thinks will be oftimes the caſe. Still he is of opinion, that the tediouſneſs of her proceſs, the diſcharge, pain, and other circumſtances, may require the aſſiſtance of art. He adviſes waiting until it is certain that the dead part of the bone is abſolutely detached, and directs the operator to expoſe the diſeaſed part, by cutting into or removing the integuments, and ſufficiently extending the opening in the bone, ſo as to take in all the ſinuſſes in the ſubſtance of it, and in proportion to the ſize of the detached portion, the moveable ſtate of which is moſtly to be perceived by paſſing the probe through one of the ſinuous ulcers.

In one of the moſt tedious caſes given by Monſ. Bouſſelin, he mentions removing the diſeaſed integuments, ſo as to expoſe the chief parts of the detached

detached bone, and give room for the uſe of the rugine and a convex ſaw; with which he penetrated into the bone, and the upper and lower parts of the wound, to the depth of half an inch; and then, with difficulty, removed the intermediate ſpace of bone with the aſſiſtance of a mallet and chiſſel, on account of its uncommon hardneſs. The wound was dreſſed as in common, except that the firſt dreſſing was ſuffered to remain 'till it was ſo moiſt as to be eaſily removed, which did not happen 'till the fifth day. A ſymptomatic fever came on the third day, which ſoon gave way to the antiphlogiſtic treatment, and the wound was nearly healed in about ſix months from the operation. For further information, vide Ruſſel on Necroſis.

WHITE SWELLING.

DESCRIPTION. Scarce any diſeaſe is more painful, obſtinate, and dangerous in its nature than this. It ſeldom attacks any other parts but the knees and ankles. The joint has been commonly conſidered as the ſeat of this complaint, but it is moſtly ſeated without the capſular ligament; it may therefore be properly divided into two kinds, the exterior and interior.

The firſt is of the milder kind, and comes on with an acute pain over the joint, and a ſwelling that ſeems to extend itſelf to the tendinous expanſions that ſurround it. The part where the pain is moſt violent, riſes with a puffy elaſtic tumour, the cellular membrane gradually thickens, and the ſwelling grows uniform, which is ſometimes the caſe from the beginning. Tenſion without diſcolouration, ſtiffneſs in the joint, and contraction in the flexor tendons, enſue; the ligamentous parts and lymphatic glands, together with the ſacculi mucoſi near the diſeaſed part, become enlarged, abſceſſes form repeatedly, which at firſt diſcharge a purulent

matter, afterwards a thin fœtid ſanies; the patient's ſtrength is worn down by continued pain and diſcharge, abſorption takes place, a weak quick pulſe, colliquative ſweats and ſtools are the conſequents; and unleſs the limb be timely removed, the patient falls a victim.

In complaints of this kind of long continuance, the capſular ligament may be eroded; but that ſeldom happens, except when the diſeaſe originates in the joint itſelf, or in the epiphyſis.

The interior kind is more inveterate; in this the pain is more acute and confined than the former; and though the ſwelling is not ſo extenſive at firſt, yet in its progreſs, both that and the pain increaſe conſiderably; the joint is ſenſibly enlarged, the tumour grows elaſtic to the touch, varicoſe veins appear on its ſurface, and abſceſſes form, which diſcharge a thin fœtid matter; the bones are thoroughly carious, ſweats and purgings come on ſucceſſively, and the patient becomes a miſerable object.

Causes. In the outward ſpecies, the tendinous and ligamentous expanſions are firſt affected. Bruiſes, ſprains, and other external injuries producing inflammation on the parts covering the joints, may be reckoned as cauſes. Rheumatic or other inflammatory affection on thoſe parts, alſo produce this ſpecies. The ſecond kind derives its origin moſt commonly from a ſtrumous habit alone, or in concurrence with ſome external injury.

Cure. In the firſt ſtage of the exterior ſpecies, it will be proper to bleed and uſe cooling remedies and diet. Topical bleeding with leeches and by cupping, are the modes moſt practiſed; a pill with calomel and camphor for two or three nights ſucceſſively, followed by a cooling purge, and occaſionally repeated; Goulard's water, Mindererus's ſpirit, or vinegar with crude ſal ammoniac may be freely applied. Should theſe means prove ineffective,

effective, bliſters or Barbadoes tar are recommended.

When the inflammation appears to be removed, mercurial friction with intervening purges, aſſiſted with a laced kneeband, or convenient bandage, have proved uſeful. Should the diſorder be ſo far advanced as to form abſceſſes, the matter ought to be diſcharged as ſoon as poſſible, if the tumour be large, by inciſion with ſeton.

The ſtiffneſs of the joint, and rigidity of the tendons, will moſt commonly yield to the repeated uſe of the vapour bath, ſucceeded by neat's feet oil. The omentum or caul and guts of a new-ſlain calf, ſheep, or other animal, applied for three or four hours every day, or plunging the part affected, into the body of a newly killed animal, or covering it up with the inteſtines taken out warm, and quick as poſſible, and wrapped round the part as long as they ſhall retain their vital heat, have been of ſingular uſe.

If, notwithſtanding the repeated application of theſe means, the diſeaſe ſhould increaſe, and the conſtitution, from pain, diſcharge, and fever, be ſinking in extreme, eſpecially when the diſorder lies near the larger joints, the only reſource is amputation. The electric ſhock is ſaid to have been of uſe in the early ſtage of this complaint.

In the worſt kind, the habit muſt be corrected; mercurial unction, antimonials, and bark, are the moſt likely means to ſucceed, after the inflammation and pain have been relieved, as before directed. In the ſmaller joints, the diſeaſed bone has been known to ſeparate, and the cure has ſoon followed. Yet in the larger joints, ſome young ſubjects, too timid to ſubmit to the operation, by the aſſiſtance of opiates, lime-water and milk, the bark, and proper diet, have been able to ſtruggle through the very worſt ſtage of the diſorder, the

diſcharge having gradually dried up, and the joint being completely anchyloſed.

TINEA CAPITIS.

DESCRIPTION. This diſorder more particularly affects the hairy ſcalp. Some writers conſider it as a ſpecies of the herpes exedens; but from the ſlowneſs of its progreſs, and its external appearances, one would rather ſuppoſe it partakes of the lepra. Sauvages ſays, that the lepra ichthyoſis frequently accompanies this diſeaſe; there ſeems to be little difference between that and the tinea, except that the ſcales of the latter become thickened in a greater degree, which particular may ariſe from the excretory juice near the bulbous roots of the hair on the head, being naturally of a more viſcid nature than that which iſſues from other parts. It frequently begins with an increaſed quantity of ſcurf upon the head.

The Tinea may be divided into two kinds, the dry and the moiſt. The firſt forms into a white cruſt, or ſcab, which ſometimes extends over the forehead; the laſt is of a more thin acrid nature, and does not ſo readily produce the thick ſcab, but eats deeper into and ſpreads further about the ſcalp, forming, as it were, a kind of quagmire under the integuments. Both ſorts are attended with much itching, and a very diſagreeable ſcent. It is more or leſs obſtinate, according as it is entangled with the hair; and when the roots of the hair, which ſeem to be the ſeats of the complaint, are greatly ſwelled, it becomes extremely difficult to cure.

This ſpecies of acrimony may be communicated by contagion; wearing the ſame cap, ſleeping on the ſame pillow, or even uſing the ſame comb, will convey it from the head of one perſon to that of another, and produce diſeaſe. Children are much more ſuſceptible than adults; and when greatly afflicted, their

their complexions grow wan, and the conſtitution ſuffers both from abſorption, and the partial obſtruction of the perſpirable matter, which is contaminated with the acrid matter lodged under the ſcabs.

The cruſtæ lacteæ which are dry, white, cruſty ſcabs, formed on different parts of the head, face, and neck of children, alſo the moiſt ulcerations of the ſcalp called achores, are moſt probably of the ſame tribe.

Causes. The tinea may ariſe from external communication, from a morbid ſtate of the excretory juice at the roots of the hair, which may or may not be contaminated, with a general acrimony of the habit, want of cleanlineſs, and an impoveriſhed ſtate of the blood.

Cure. Former practitioners ſuppoſing this complaint to ariſe from a vitiated ſtate of the juices, reprobated the uſe of repellents, and never attempted to cure the ſlighteſt degree of the diſeaſe, without ſtrong evacuants, and a ſtrict alterative courſe; ſome of modern date conſider this, with moſt diſeaſes producing ulceration in the ſkin, as merely local, and often venture upon their uſe without the leaſt precaution; either of which extremes muſt be bad, the former by adminiſtering active medicines without an adequate cauſe; the latter from not duly conſidering the miſchiefs which ſometimes affect the general ſyſtem, when acrid matter is ſuddenly abſorbed. Surely it muſt be conſiſtent with reaſon and ſound practice to be governed, in all ſuch matters, by the nature of the habit, and the quantity or quality of the diſcharge.

In the early ſtage, the hair ſhould be kept cloſe cut or ſhaved, and the head waſhed with ſea water twice a day; if ſea water cannot be conveniently had, a moderate ſolution of common ſalt, or Epſom ſalt, in water, may be ſubſtituted, now and then giving a purge with rhubarb, or jalap and cream of tartar.

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In the more advanced ſtate, the parts ſhould be repeatedly ſmeared over with tar ointment, made of equal parts of the beſt Stockholm tar and mutton ſuet, ſlowly melted together; gently rubbing off the ſcab with a ſoft piece of flannel, and when the ſores are properly cleanſed, applying rags wetted with camphorated vitriolic water, or a ſolution of ſalt of ſteel, or dabbing them with a weak ſolution of corroſive ſublimate in water, in no greater proportion than eight grains to a pint. Cleanſing the ulcerations with tar ointment, and dreſſing them lightly with the mercury præcipitate ointment of the London Diſpenſatory, have alſo proved effective.

When the diſeaſe is ſo far advanced, that the roots of the hairs are much thickened, and the ſcalp is deeply affected, no remedy is likely to prove effectual without removing the hairs by the roots; which may be done at different times, and with leſs pain than uſual, by ſuffering the hair to grow a little, then applying a portion of pitch plaſter to the part intended to be depilated, and afterwards drawing off the hairs, according to the courſe in which they naturally grow. At each removal the part ſhould be ſponged clean with warm water, and firſt touched with a liniment compoſed of one part white præcipitate ointment, and two of white cerate, afterwards, dabbed with the camphorated vitriolic water, or with the weak ſolution of ſublimate juſt mentioned.

Upon the firſt attempt to cure in the latter ſtages, it will be proper to form an artificial outlet, and to purge with rhubarb or jalap, with calomel or a doſe of ſalts, according to the ſtate of the diſcharge, which ſhould be repeated occaſionally; and on the intervening days, a powder with crude antimony prepared, and a few grains of gum guaiacum, or the alterative powder, with decoction of ſarſaparilla and ſaſſafras, mentioned under the article ſcrophulous ulcer;

ulcer; or Dr. Heberden's Elect. verſus leprum, as follows:

Crude antimony prepared, and pale bark in powder, each half an ounce; bark of ſaſſafras powdered, one dram and a half. Rub theſe well together. From one ſcruple to a dram two or three times a day, with half a pint of elm-bark decoction.

It may be proper to obſerve, that in very young perſons calomel will be unneceſſary when the mercurials are applied externally. When ſuch alteratives are ordered, a purge ſhould be given once in ſix or ſeven days.

Lime water and milk duly proportioned, as in the article ſcrophulous ulcer, is proper both externally and internally in the moiſt kind; alſo bark infuſed in lime-water. A bliſter, iſſue, or ſeton ſhould be opened in the nape of the neck, at the very firſt of the proceſs.

Dr. Duncan, of Edinburgh, recommends firſt the application of a white bread poultice, or the crumb of white bread, to be moiſtened well with the mercurial lotion juſt mentioned; afterwards, the following liniment:

Verdigreaſe finely powdered, half a dram; ſimple unguent an ounce and an half, or two ounces: Mix. Half a dram to be applied night and morning.

OEDEMA.

Description. This kind of tumour affects different parts of the body, particularly the legs and feet; it is often circumſcribed or confined, ſometimes more generally diffuſed; is cold and pallid, attended with little or no pain; retains the print of the finger when preſſed upon it, and occaſions no great alteration in the ſkin, except tenſion and a ſhining

ſhining ſmoothneſs. This is called by ſome, œdema frigidum, to diſtinguiſh it from another kind, named callidum, which is commonly mixed with eryſipelas, and yields a glowing heat, is ſometimes free from redneſs, but attended with a deep ſeated pain and girting tightneſs.

Causes. Weakneſs and obſtruction in the lymphatic ſyſtem, irregularity in diet, intermittents, hæmorrhage, aſthma, phthiſis, a ſedentary life, menſtrual obſtructions, induration of the meſenteric glands, and compreſſion of the abdominal veſſels.

Cure. It is ſometimes dangerous to uſe repellents in the diſperſion of theſe tumours: the habit ought to be altered and ſtrengthened by internal remedies and proper regimen. The curative intention ought alſo to be adapted to the nature of the cauſe, and the prevalent diſeaſe in the conſtitution. In the relaxed and aged habit, warm gentle laxatives, proper nutriment, plenty of bark in red wine, and chalybeates, are moſt likely to relieve: dry frictions and the ſpiral bandage, or laced ſtocking, are neceſſary aſſiſtants. The diet ſhould in general be ſtimulating and generous, and the air dry and warm.

The hot acrimonious kind, which generally attends bilious eryſipelatous habits, is to be treated according to the directions for *Eryſipelas*.

ENCYSTED TUMOURS.

Description. Theſe tumours appear in different parts of the body, and are contained in membranous bags, formed by the cellular membrane being compreſſed and condenſed; they contain fluids of various conſiſtencies, from the particular ſtate of which they are nominally diſtinguiſhed.

When the contents are of a pappy conſiſtence, reſembling paſte or a poultice, the tumour is called *Atheroma*; if it hath a reſemblance to honey, *Meliceris*; and if ſuet like, *Steatoma*. Theſe tumours are moſtly very ſmall at firſt, and increaſe ſlowly, till

till they arrive at an enormous ſize. Mr. Petit mentions one which he extirpated, that weighed upwards of twenty pounds. They form without redneſs, heat, or pain; but when large and ſcirrhous, much pain and danger may follow.

The *Atheroma* is ſoft, regular, and moſt frequent, and is chiefly attendant on ſcrophulous habits; the *Meliceris* is alſo not unfrequent; and the *Steatoma* commonly attacks the moſt healthy. The two firſt are not ſo eaſily to be diſtinguiſhed from each other; the laſt is more firm to the touch than the former, and does not admit of fluctuation.

Theſe tumours are generally termed wens; but ſuch only as are formed of the membranous or fleſhy parts are entitled to this appellation: indeed, a ſmall portion of lymph is ſometimes found in the centre of thoſe ſwellings.

The *Ganglion* is a ſpecies of encyſted tumour of the meliceris kind, which is formed within the tendinous theca; its contents moſtly reſemble the white of an egg.

Cause. Encyſted tumours may be reaſonably ſuppoſed to originate from injury done to the cellular and adipoſe membrane, together with a partial impediment to abſorption.

Ganglions are commonly produced from the ſame cauſes.

Cure. Encyſted tumours, like thoſe of the ſcirrhous kind, ought to be more attended to in the infant ſtate: rubbing them at that time with mercurial ointment will ſometimes diſperſe them. Some have been brought to maturate by means of the warm gum plaſter, or ſuch like application; but the quickeſt and moſt eligible method of getting rid of them is by exciſion; taking care to remove the whole of the cyſt, if practicable, with ſafety. Thoſe which are ſmall and have a ſlender baſe may be extirpated by ligature.

If in the operation by exciſion the cyſt ſhould be wounded,

wounded, which is often done when the tumour runs deep within the interſtices of the muſcles, the contents ſhould be preſſed out, and as much of the cyſt ſhould be diſſected away as can be done with convenience and ſafety: the remainder may be deſtroyed with mild eſcharotics, or left to ſuppurate and diſſolve away.

In every caſe where the tumour is not pendulous or large, a ſtrait inciſion in its full extent will give ſufficient room to diſſect away the cyſt, and the wound may be afterwards managed according to the treatment laid down under the article, *Diſorders of the Breaſt*. Endeavouring, if at all practicable, to heal by the firſt intention. If the tumour be large, a cruciform inciſion, or tranſverſe ſection on one ſide, may afford convenient room for its removal. In order to render the ſkin, in large tumours, more ſuitable to the purpoſe of healing by the firſt intention, it will be convenient to take away a part of the looſe teguments in ſuch direction as will beſt admit of the edges being placed in regular contact with each other.

Inciſion with ſeton has ſometimes anſwered in the ſofter kind of encyſted tumour.

Ganglions have been frequently removed by preſſure with thin ſheet lead and proper bandage, or by a ſudden blow. Many which greatly impeded the uſe of the fingers and wriſt, have been diſperſed by gently and repeatedly beating them with a ſmall thick ferula, ſo as not to bruiſe the part, or occaſion much pain. If they ſhould reſiſt theſe attempts, exciſion, as in the encyſted tumour, will be neceſſary. For a ſingular operation on the wriſt in a tumour of this kind, vide Mr. Warner's Caſes in Surgery; wherein he gives a particular inſtance of the neceſſity for making the external wound of full extent with the tumour.

EM-

EMPHYSEMA.

DESCRIPTION. A ſoft, flatulent tumour, formed under the ſkin, ſometimes of great thickneſs, and ſpreading throughout the body; the face being ſo diſtended, as not to leave the leaſt trace of a feature. Upon preſſure, the air withdraws itſelf with a crackling noiſe, but the part compreſſed immediately returns to its former ſtate. It is attendant on wounds that penetrate the cavity of the thorax, on injuries of the lungs received by the points of a fractured rib, or on wounds in the larynx: it is alſo partially produced in contuſed wounds about the head, face, eyelids, ſcrotum, &c. If the air ſhould eſcape from the lungs into the thorax, relief muſt be ſpeedily adminiſtered.

CAUSES. It is occaſioned from confined rarefied air forcing itſelf into the cellular membrane, or air finding its way into the cells by the lips of a wound: putridity is alſo a cauſe.

CURE. The natural indication of a cure is to expel the confined air as ſoon as poſſible, which is moſt likely to be affected, by preſſing the included fluid, out at an orifice in the ſkin or the wound, and applying thick compreſſes wetted with camphorated ſpirits, with a ſtrict bandage over all.

Inciſions or punctures ſhould be made into the cellular membrane in different parts of the body, through which the air may be repeatedly excluded by preſſure; after which compreſſes dipped in Mindererus's ſpirit, or ſharp vinegar, and a tight bandage, ſhould be applied to the different parts where the ſcarifications were made. When it ariſes from a wound, it may be proper to enlarge the opening; and if reſpiration be difficult, blood muſt be drawn from the arm, repeatedly, as in the pleuriſy. Nitre and antiphlogiſtics are alſo neceſſary, particularly when a rib is ſo fractured as to produce this untoward complaint.

When a quantity of air is confined in the cavity of the breaſt, and the vital functions are dangerouſly obſtructed, the paracenteſis is the chief remedy.

WARTS.

Description. Theſe are excreſcences of the cutis connected with the cuticle, which infeſt moſt parts of the external ſurface of the body, but more particularly the hands; they are of different ſize and figure, broad and flat, ſlender, or pendulous: ſome break through the cuticle and become irregular in their ſurfaces, and from their appearances are termed ſeeded warts.

Warts ſometimes grow to a large ſize, and are very troubleſome and tender, particularly thoſe on the eyelids; if not meddled with, they will generally ſuppurate and diſſolve away; but when irritated, are apt to grow hard, dry and fungous. They may be removed by abſciſſion or ligature, with a ſingle horſe-hair, regularly and repeatedly tightened. When the aſpect of thoſe which are ſeated on the lips, face, and eyelids, is of the livid caſt, and the adjacent parts are hard, tender, and inflamed, there is ſome danger of their proving cancerous.

Cure. Warts that have a ſlender baſis may be removed by means of a ſingle hair ligature, or a fine ſilken thread waxed. They are alſo to be extirpated by abſciſſion with a pair of ſharp-pointed ſciſſars, or a ſmall ſcalpel. Cauſtic applications are alſo uſed to deſtroy them; but care muſt be taken to limit their action, by touching the part lightly and often, when there is reaſon to fear injuring a ſubjacent ligament or tendon. Oil of vitriol, aqua fortis, or butter of antimony are often recurred to for that purpoſe, but require caution. The juice of celandine and ſpurge laurel have proved efficacious in the ſoft and ſmaller kind. Some have been removed

removed by rubbing them with crude ſal ammoniac, or uſing a ſlight ſolution of it in oxycrate, or by dabbing them with the lees of tartar.

Corns are a ſort of horny excreſcence growing on the feet and toes, and on the hands of labourers. Theſe calloſities reſemble an inverted wart, and are ſeated in the cutis and cuticle, ariſe chiefly from preſſure and attrition, and when rooted near a tendon become extremely painful.

The eaſieſt and beſt mode of getting rid of theſe troubleſome companions is, to avoid all uneaſy preſſure, and apply a piece of plaſter, little more than the ſize of the corn, ſpread with the ſoap or ſimple litharge plaſter, to be kept cloſe on the part for four or five days together, in order to ſoften its ſurface; this being removed the ſodden part is to be pared off, but by no means ſo low as to touch the quick; the whole to be renewed and repeated once in five or ſix days, till the corn appears likely to turn out at the root, or waſte away: it will be uſeful to ſoak the part in bran and water, previous to each cutting.

Tumours called *Onions* are larger and more extenſively ſeated than corns, and are extremely difficult to get rid of; they ſometimes inflame and ſuppurate, and require ſome art to heal them. The ſuppurative cataplaſm and light eaſy dreſſings are the beſt applications. There are inſtances of perſons ſubmitting to have a toe amputated, to get rid of this painful gueſt.

WOUNDS IN GENERAL.

Description. A wound is a recent diſunion of the ſoft parts of the body and the connecting teguments.

A wound is more or leſs important, according to its ſize, the ſharpneſs of the inſtrument with which it was made, the part of the body in which it

was received, the nature of the parts injured, and the ſtate of the habit.

The numerous diſtinctions which authors generally make with reſpect to this ſubject, rather tend to perplex than explain it. The whole may be comprehended under the following heads, viz. the ſimple inciſed, the lacerated, and the complicated.

The *Simple Inciſed Wound* is a mere ſeparation of parts, and in a healthy ſubject, generally admits of the union which is termed healing by the firſt intention.

The *Lacerated Wound* is when the ſeparation is irregular; it may be produced by violent diſtention, laceration, or puncture, and is of a much worſe kind than the former.

The *Complicated Wound* is accompanied with one or more of the following circumſtances; viz. contuſion, loſs of ſubſtance, or ſome violent ſymptom. Wounds, where a large blood veſſel, a nerve, tendon, or the bone is injured, are of this kind; gunſhot and venomous wounds may be alſo ranked in this claſs, together with thoſe that are produced by thorns, ſplinters, glaſs, &c. when the extraneous body is lodged in the part.

An inciſed wound generally bleeds freely, a contuſed wound ſeldom does. The pain, inflammation, &c. are more violent in the latter, and, if the injury be great, gangrene is not unlikely to follow.

When an artery is wounded, the blood ruſhes out by ſtarts, and is of a florid colour; if a vein only, the blood is of a darker hue, and flows in a moderate and equal ſtream.

A ſharp ſhooting pain, attended with inflammation, ſpaſmodic contraction, and rigidity, with a loſs of ſenſe and motion in the part, indicates a principal nerve or tendon to be injured; rigor, fever, delirium, and other alarming ſymptoms ſometimes ſucceed, ſubſultus tendinum, locked jaw, and even death have proved the conſequences of ſuch wounds.

wounds. A ſlight cut in the extremities, with a *jagged* or *rough edged inſtrument*, in irritable habits, has been ſometimes attended with a locked jaw.

When a fleſhy part only is wounded, the pain is generally obtuſe, and the ſymptoms are moderate.

Tumour, heat, redneſs, inflammation, and pulſation in the part, are the common attendants of wounds; but if no tumour or inflammation ariſe about the wound, it proves that the vital heat is defective and threatens ill: ſhould theſe ſymptoms be exceſſive, gangrene may follow. Wounds in the joints, lungs, belly, or ſpinal marrow, are always dangerous; the latter always produce palſy in the nether parts.

Wounds of the *Internal Parts*. The ſeat and extent of ſuch wounds are to be aſcertained by the direction, the nature of the diſcharge, and the difficulty attending the action or function of particular parts.

In wounds of the *Trachea*, or *Windpipe*, the breath paſſes out at the orifice, blood is coughed up, and the patient finds great difficulty in ſpeaking.

If the *Œſophagus*, or *Gullet*, be wounded, the aliment finds its way through the opening, deglutition is painful and obſtructed; hiccup, vomiting, deliquium, and cold ſweats, commonly attend ſuch an injury.

Wounds of the *Lungs* are known by coughing up frothy florid blood, and by the ſame flowing through the opening, pain and difficulty of breathing, deliquium, irregular pulſe, &c. and from the air in inſpiration making its way through the wound.

Symptoms of wounds in the *Diaphragm* are difficulty of breathing, hoarſeneſs, hæmoptoe, and pain under the falſe ribs.

In wounds of the *Spinal Marrow*, the parts, receiving nerves from thence beneath the wound, become paralytic.

Wounds of the *Receptacle of the Chyle*, or *Thoracic*

Duct, diſcharge a light greyiſh fluid, and the patient ſhrinks and grows weak.

Wounds of the *Liver* and *Spleen*, diſcharge a blackiſh coloured blood from the right or left hypochondrium, and are attended with great difficulty of breathing. In affections of the liver, a pain is moſtly felt in the right arm and ſhoulder.

Wounds of the *Stomach* are attended with the ſame ſymptoms as thoſe of the *Gullet*.

When chyle and indigeſted aliment are diſcharged through a wound, the *Small Inteſtines* are injured; if the excrements ſhew themſelves, the *Large Inteſtines* are moſt probably hurt.

The *Gall-Bladder*, or *Duodenum*, are generally injured, when the direction of the wound lies towards the ſeat of the liver, and a quantity of ſerous and bilious fluid is diſcharged.

In wounds of the *Kidnies*, the urine is bloody, and much pain is felt between the groin and teſticles; if the urine be diſcharged through the wound, the *Ureter* or the *Bladder* is injured.

In wounds of the *Uterus*, great pain is felt in the groins and hips, and blood flows from the pudendum.

Wounds in the *Abdominal Viſcera* are generally attended with vomiting, hiccuping, ſyncope, diminution of ſight, and cold ſweats.

Wounds in the *Head*, which reach the pericranium only, are ſometimes attended with violent ſymptoms; but when the ſkull is injured, great ſtupor generally enſues; and if the brain or its membranes be hurt, vomitings, ſtupor, loſs of ſpeech, paralyſis, and convulſions, frequently ſucceed.

Contuſed wounds on the head, which have appeared to be ſlight, have ſometimes been followed with fatal ſymptoms. Surgeons ought therefore to enquire minutely into the ſtate of the parts injured, the nature of the blow or fall by which the wound was occaſioned, and the ſtate of the patient's ſenſes

immediately after receiving it; in order that proper evacuations and regimen might be purſued, to prevent inflammatory ſymptoms, which have come on unexpectedly about the twelfth or fourteenth day from the accident, ſometimes much later.

If upon paſſing the probe beyond the wounded integuments, a puffineſs ſhould be felt in the pericranium, that membrane is moſt probably detached; which is a preſumptive proof that the blow was given with greater force than the external appearance of the wound indicates: and that the concuſſion which the brain muſt have ſuffered, ought to be duly attended to, particularly if the ſenſes be rather diſordered.

Causes. Inſtruments either blunt or ſharp, which by violent application externally, are capable of producing a ſolution of continuity in the different parts of the body; they may alſo be occaſioned by extraordinary diſtenſion.

Cure. Before the general method of cure is explained, it may not be amiſs to mention the vague notions of the nature and treatment of wounds entertained by ſurgeons not many years ago; when the proceſs of cure was ſuppoſed to be chiefly effected by art, and briefly to notice the opinions of thoſe of the preſent day.

The progreſs of cure was then divided into four different ſtates: the firſt was called the *crude ſtate*, in which the diſcharge was thin and ſanious; to correct which, greaſy and warm dreſſings were applied towards bringing on the ſtate of *digeſtion*, which was diſtinguiſhed by an uniform, laudable pus, as it was called; when the wound appeared clear and red, the buſineſs of *incarnation* began, which was ſuppoſed to be carried on by means of ſarcotic medicines, or medicines that had the power of generating and promoting the growth of fleſh; and at length, when the hollow of the ſore was properly filled up, they proceeded to *cicatrization*.

More modern practitioners are convinced that nature is the principal agent in healing wounds; and phyſiologiſts have clearly demonſtrated three different proceſſes by which it is accompliſhed.

The firſt and moſt ready, is that which is commonly called healing by the firſt intention; this is frequently perfected, in a freſh-bleeding inciſed wound, without inflammation or ſuppuration, provided the parts divided have not been long kept aſunder, or no conſtitutional diſeaſe interferes; by placing the edges of the wound as appoſite and cloſe together as poſſible, and retaining them ſo by ſlips of adheſive plaſter, and, if requiſite, the interrupted ſuture.

The ſecond proceſs is brought about by what is termed adheſive inflammation, or rather adheſion, of the raw ſurfaces without inflammation, ſuppuration being the moſt probable conſequence of the parts inflaming. If ſo much time has been loſt that the mouths of the ſmall veſſels are collapſed or retracted, although the divided parts are in ſome degree inflamed, the wound may be healed by placing the edges properly together, and uſing the ſame means as directed in the firſt proceſs.

The third and moſt dilatory natural proceſs, is that by ſuppuration, granulation, &c. It is certain, however, that this tedious method might be often evaded, were the two former proceſſes more regularly attended to.

Where, then, no extraneous body interrupts, no principal blood-veſſel, nerve, or tendon is wounded, and the ſtate of the divided parts will admit, the edges of the wound are to be placed as appoſite and cloſe as poſſible, and to be retained ſo, by ſlips of plaſter, and the interrupted ſuture, if neceſſary. Lint, moiſtened with traumatic balſam, or, in irritable habits, ſpread with yellow or white cerate, is to be applied over all, with a ſlight compreſs and retaining bandage.

If an arterial branch be divided, and be neceſſarily ſecured by means of the tenaculum and ligature, the ends of the latter are to be left a proper length without the edges of the wound.

The ſtrips of plaſter, and other dreſſings, will generally call for renewal on the fourth or fifth day, ſooner or later according to the degree of adheſion, diſcharge, or coheſion of the parts; ſtudiouſly avoiding the ill conſequences of expoſing the wounded parts to the air, which muſt attend too frequent or tedious dreſſing. Should inflammation come on rapidly, it will be neceſſary to remove the ſtitches, and repeatedly to apply cloths wetted with ſaturnine lotions, and to order gentle evacuants, and proper regimen. By ſuch means, the cure of a common fleſh-wound may be completed in one-fifth part of the time that it uſed to be, unleſs ſome conſtitutional ill ſhould prevent.

The *Lacerated Wound*, when deep, angular, and large, or where a part is nearly torn off, requires the interrupted future; but if there be much loſs of ſubſtance, an extraneous ſubſtance unavoidably remains therein, or if the contuſion be great, both future and bandage ſhould be omitted, and it muſt be treated like a wound of the complicated kind.

The *Complicated Wound* ſeldom admits of either future or bandage. In this claſs it is alſo neceſſary to remove all foreign bodies, to ſtop the hæmorrhage, and, after having ſponged the part well with warm water, to apply lint, dry, or armed with the balſam; ſtill remembering that the milder dreſſings are beſt adapted to irritable habits, and that the wound ſhould not be expoſed too ſoon, or too often. Thick pledgits of ſoft lint, moiſtened with ſolutions of the gummy or balſamic kind, ſeem beſt to anſwer the intention in wounds of this order, as they will form a ſticking cruſt, perfectly defenſative againſt the air. A covering pledgit of fine tow, or doubled rag, ſpread with cerate, is preferable to ſticking plaſter,

which is too generally uſed upon ſuch occaſions, ſince the former can be removed without occaſioning the leaſt irritation. If the inflammation be great, the beſt external applications are, ſaturnine water, or bread poultice.

When the conſtitution is in too languid a ſtate, warm poultices ſpread thick with the bread and cummin, cataplaſm, or ſtrong beer grounds and flour of oatmeal poultice. The bark, decoction of ſnake-root, &c. ſhould be copiouſly adminiſtered, reſt and ſleep indulged, and opiates with laxatives ſhould be given occaſionally.

If a *Nerve* or *Tendon* be divided in part only, the pain, inflammation and fever are much more violent than when a total diviſion has taken place; it is therefore recommended to divide them wholly. The limb ought in all caſes to be laid in a relaxed poſture, and large thick poultices, made with bread and milk, or Goulard's mineral water, ſhould be frequently applied. Membranous and tendinous expanſions alſo, when wounded and on the ſtretch, are ſeldom to be relieved but by a greater diviſion of the ſtrictured parts. A *Locked Jaw* has been known to proceed from a ſlight wound on the finger, which amputation only gave relief to.

The remedies commonly confided in for the *Locked Jaw*, are, the warm bath, opium, in increaſed doſes according to its effect internally, and applied externally to the contracted muſcles of the jaw, ſoftened down with ſpirit or water; alſo emollients freely rubbed into the parts covering the jaw; ſuch as, neat's-foot oil, and animal fats of the ſofter kind. Some practitioners warmly recommend terebinthinate applications to the wound, in order to excite local inflammation, or a different action in the habit.

If an *Artery* be *wounded*, the hæmorrhage may generally be ſtopped by compreſſion, tenaculum or needle and ligature; vide *Amputation*. When the veſſel is inacceſſible to either of theſe means, compreſſes

preſſes and bandage applied to the limbs in the courſe of the arteries, in order to retard the general circulation, have had good effect: in aid of which, the patient muſt be kept cool and quiet, and upon a low regimen; but repeated hæmorrhages, and their evil conſequences, are too often the reſult of ſuch uncertain means. The actual cautery may be ſometimes profitably employed, when other means cannot ſucceed; particularly with the ſmaller arteries, when retracted. Dry lint, or dry compreſſed ſponge, forcibly retained againſt a divided or ruptured arterial branch, has alſo proved effectual; as has a hard pledgit, or button, armed with butter of antimony, or potential cautery; but the chief ſecurity is ligature, towards which, an enlargement of the wound is ſometimes neceſſary.

The ſponge, and what is called the graduated compreſs, are ſometimes neceſſarily confided in: namely, when the injured veſſel lies deep, and cannot be come at by inciſion, without endangering ſome important nerve, or large artery; or when the veſſel is not in the power of the needle or tenaculum; alſo to a bleeding ſurface. They are uſed after the following manner: a piece of dried compreſſed ſponge, cut in ſize and ſhape ſuitable to the wound or inciſion, with thread tied to it, by which it is to be drawn away in proper time, is thruſt down to the bottom of the wound, and fixed, with the end of the finger, on the bleeding mouth of the artery; then compreſs after compreſs are fixed one above another, until the uppermoſt riſes above the level of the wound; a ſtrict bandage, and preſſure with the hand, complete the whole of this obligatory proceſs.—Vide *Tumours in the Neck.*

Various inſtances can be proved, where wounds in the brachial and femoral artery, high up in their courſe, have been treated after the manner of aneuriſms, with ſucceſs. Amputation therefore, in caſes of that kind, ought not to be implicitly put in practice.

tice. Suitable preſſure, by compreſs and bandage, along the courſe of the main artery, ſo as to check the impetus of the circulation through the limb, and impede the efflux of the bood, has alſo ſucceeded in the brachial artery, when punctured in the operation of bleeding, and when it was accidentally divided about an inch below the elbow; but preſſure and bandage at the part injured, is more likely to ſucceed. In all ſuch caſes, much council is neceſſary to the moſt ſkilful. Vide *Accidents from Bleeding*.

Contuſed Wounds are to be treated according to the degree of injury which the ſurrounding parts have received; and the edges ſhould be brought together as near as poſſible. Traumatic balſam on lint, Sal ammoniac diſſolved in oxycrate, or Goulard's ſaturnine water mixed up with crumb of bread, or applied with double linen cloth, are moſt proper to check or prevent inflammation. Such wounds, with great loſs of ſubſtance, and where the part has received too much injury to be reſtored, will want ſuppurative means to be employed: in ſuch caſes, the aſpect of the wound, and the nature of the conſtitution, ought to be well conſidered, and treated accordingly. Vide *Ulcers*.

Should the edges be pale, flat, or flabby, and the diſcharge prove thin and ſanious, pledgits dipped in the decoction or tincture of bark, traumatic balſam, or tincture of myrrh with honey of roſes, and invigorating poultices, ſhould be exhibited externally, and the bark, &c. internally. Vide *Ulcers*, and *Gangrene*.

The Gangrene in lacerated or contuſed wounds, ariſe either from a diſeaſed habit, the deſtruction of ſome conſiderable veſſel, or exceſſive inflammation. If ſuch wounds are attended with great inflammation, in young ſubjects and healthy conſtitutions, bleed topically or otherwiſe, uſe the antiphlogiſtic means, lay the part in the moſt relaxed and eaſy poſture, and give opiates occaſionally.

Wounds

Wounds in the Lymphatics will yield much limpid diſcharge, and are difficult to heal; if the ſalivary duct or glands are injured, it may be neceſſary to paſs a ſeton, or make an opening into the mouth. Lint dipped into a ſolution of alum, camphorated vitriolic water, or Goulard, with proper compreſs and bandage, may be efficacious. Great trouble has been experienced from having wounded a lymphatic veſſel, on opening the cephalic vein in the arm, which was chiefly remedied by hard compreſs and bandage. It is adviſed by ſome to take up the veſſel with needle and ligature; but, when a large lymphatic veſſel has been wounded and cured, the extremity of the limb becomes œdematous. This is very likely to happen after the extirpation of ſcirrhous glands in the armpit.

Wounds in the Ligaments. Theſe parts are poſſeſſed of little ſenſibility in the ſound ſtate; when wounded or diſeaſed, they become extremely irritable and painful, and are ſooner or later productive of alarming ſymptoms. When the capſular ligament of a principal joint is wounded, inflammation, tumour, tenſion, and repeated ſuppurations, are the moſt favourable conſequences. For the treatment of ſuch wounds, ſee *Wounds in the Joints.*

Wounds in the Head, made by a ſharp inſtrument, recent and ſimple, may be ſewed up and dreſſed accordingly; which treatment will frequently ſucceed when the ſkull is cut, if no bad habit prevent. In wounds of the ſcalp, when the ſkull has been laid bare, cleanſing the flap, and ſecuring it by future and a gentle retentive bandage, have proved effectual. In ſome conſtitutions, inflammation and eryſipelatous ſwelling have followed, with fever, ſtupor, and other violent ſymptoms; which, after bleeding and cooling means had failed, were relieved by cutting out the ſtitches, waiting till the ſwelling ſubſided, and laying the ſcalp down again regularly. When the pericranium has been wounded by puncture, or a blunt

blunt inſtrument, the ſame ſymptoms have occurred, and have been relieved by an inciſion through the ſcalp, and the ſuppurating proceſs.

Wounds in the Face are commonly cured with the aſſiſtance of the dry ſuture, when deep and irregular, the interrupted ſuture becomes neceſſary.

Wounds in the Eye-brows and Eye lids. When they are large and in a tranſverſe direction with reſpect to the muſcular fibres, it will be neceſſary to uſe the interrupted ſuture; in a contrary direction, the dry ſuture will be ſufficient.

Wounds in the Eye. The eye admits of no ſuture; the only means that can be employed on ſuch occaſions are bleeding and every kind of treatment to prevent inflammation, and to obviate ſuppuration, if poſſible, which laſt is ſometimes the melancholy conſequence. Vide *Opthalmia* and *Cataract.* A wound through the orbit generally ends fatally.

Wounds of the Ear. If the cartilage be divided, or any part be irregularly torn, the common ſuture is required, the balſam on lint, Goulard, compreſs, and bandage.

Wounds of the Tongue may be ſewed up, and the ſtitches ought to be made deep, on account of the ſoftneſs of the part. A ſolution of myrrh in barley water, with the addition of honey of roſes, is a proper lotion, and ſhould be uſed frequently.

Wounds of the Neck are more or leſs dangerous, according to the nature of the parts that are wounded. If the carotid artery, or internal jugular is injured, the ſurgeon's art is of little or no effect. When the windpipe is wounded tranſverſely, the interrupted ſuture is to be preferred; if longitudinally, adheſive plaſters will ſuit beſt. The interrupted ſuture, with broad ligature, has been known to anſwer very well, by paſſing the needle through the muſcle and cellular membrane, cloſe to the trachea, without piercing it, or including the ring, and applying ſticking plaſter over the whole. The external

external applications ſhould be of the mildeſt kind, and the head ſhould be kept ſeveral days in a fixed poſture, by means of bandage, and as much inclining to the cheſt as poſſible. In ſtitching up the divided parts, the needle, for ſafety ſake, ſhould be paſſed from within outwards; and in all caſes wherein the danger of wounding the veſſels is great, it ought to be of the flat kind, and moderately curved; the readieſt way of doing this, is to fix a needle at each end of the ligature.

Wounds in the Œſophagus generally end fatally, as do thoſe in which the par vagum and nerves which ſupply the internal parts are divided. They are ordered to be treated in the ſame manner with thoſe of the trachea, but the attempt is more dangerous on account of the difficulty of getting at the part, for fear of injuring the nerves and blood veſſels. The diet in ſuch caſes ſhould be liquid, ſuch as thin milk, ſagoe, tapiaco, jellies, &c. but nutriment ſhould chiefly be adminiſtered by glyſter.

Wounds in the Thorax. In thoſe that penetrate this part, an enlargement is ſometimes neceſſary to facilitate the diſcharge from within the cavity. When the intercoſtal artery is wounded, it may be ſecured with the curved needle. Bleeding repeatedly, reſt, and a cool regimen, with gentle laxatives and refrigerants, have proved ſucceſsful where the lungs have been wounded through and through; the principal buſineſs then is, to reſtrain hæmorrhage, and to prevent inflammation, by the general means. In moſt wounds, ſuperficial dreſſings are to be preferred; but if there be a diſcharge from the cavity, it will be neceſſary to keep open the external wound, after the manner before preſcribed. *Vide Empyema.*

To give exit to the extravaſated blood, perforation at the inferior part of the thorax is adviſed; ſometimes paſſing the finger or a ſilver canula up the wound, will invite the blood to the orifice, and relieve

relieve the oppreſſive ſymptoms; but the cautious and judicious ſurgeon would ſurely leave ſuch hazardous buſineſs to the indications of nature, and attempt to give aid only where ſhe points out the neceſſity for it. Concerning this proceſs, *vide Paracenteſis.*

Wounds in the Abdomen. Thoſe which penetrate the cavity without injury to the inteſtines, or other viſcera, depend principally upon bleeding, reſt, and cooling remedies; if regular, may be united by the dry ſuture, but when irregular, are to be aſſiſted with the interrupted or quilled ſuture; a recumbent poſture, and a ſupporting bandage, are always neceſſary, and the quilled ſuture is to be preferred in wounds of great extent. *Vide Cæſarean Section.*

When the *Inteſtines* protrude, and are not wounded, they ſhould be returned into the cavity as ſoon as poſſible; and in caſe the orifice is not ſufficiently open, for that purpoſe it muſt be enlarged; on ſuch occaſions, the bowels are generally puffed up with rarefied air, which ſome authors adviſe to be let out by ſlightly pricking them; but ſuch an expedient ought not to be trifled with.

When the Inteſtines are wounded in ſuch degree as to require the ſuture, the glover's ſtitch is ordered to be uſed. *Vide Sutures.*

When the gut is entirely divided, and both ends are to be found, the rim of the one ſhould be ſlipped, if poſſible, a little way into the other, or at leaſt placed in contact with it, and retained ſo by a common ſtitch or two, at the ſame time it will be proper to paſs the threads through the inner edge of the external wound, for the purpoſe of confining the injured parts of the gut there, and the better chance of adheſion.

If any part of the *Omentum* appears to be gangrenous, it will be proper to ſeparate it juſt below the ſound part, and return the reſt. *Vide Herniæ.*

And

And if a portion of the inteſtines be detached, either by inciſion, or by mortification, the ſound part ſhould be ſtitched to the edges of the wound, and be left to form an artificial anus.

Wounds of the Receptacle of the Chyle, Thoracic Duct, Pancreas, Meſentery, Liver, Spleen, Kidneys, &c. are to be treated in the general method preſcribed againſt *Inflammation*, &c. Vulnerary injections and tents were formerly in great uſe; the firſt are pretty much exploded; the latter are ſtill in uſe, when matter is formed in either of the great cavities.

Wounds in the Joints, are ſubject to violent pain and inflammation, and ſometimes attended with delirium and convulſions. When the capſular ligament is pierced through, the *ſynovia*, a ſlippery fluid ſecreted within the joint, ſerving to facilitate its motion, will paſs off. Surgeons are ſometimes deceived as to this diſcharge, by a fluid of a ſimilar nature proceeding from the ſacculi mucoſi, which are ſmall bags that lie under and ſerve to lubricate the tendons of the muſcles in their action. The chief marks of diſtinction in the two caſes are, the ſymptoms being more violent and dangerous in the former, and the ſynovial diſcharge more copious.

In all ſuch wounds, plentiful bleeding, laxatives, repeated doſes of opium, nitre, and cooling regimen, are the principal means of relief. Externally, and at firſt, ſaturnine applications; afterwards as in other abſceſſes. As ſoon as the inflammatory ſymptoms are removed, compreſſes moiſtened with aluminous or vitriolic ſolutions, aſtringent decoctions, &c. with moderate bandage, together with bark and vitriol, will be neceſſary towards reſtraining the diſcharge.

Gunſhot Wounds. The violent contuſion, laceration of the parts, and the lodgment of extraneous bodies, render theſe wounds more alarming than moſt others. Thoſe which affect the bones, joints, viſcera, or blood-veſſels, are of the worſt kind; ſtill there

there have been inſtances of cure in the moſt deſperate caſes; too few, however, to warrant the trial in bad habits.

Cure of Gunſhot Wounds. The univerſal tremor, and the fluttering of the heart, together with coldneſs in the extremities, which almoſt immediately ſucceed the ſtroke from wounds of this kind, is a ſtrong affection of the nervous ſyſtem; which generally produces a degree of terror, in men of the greateſt courage and reſolution.

The firſt things to be attempted towards the cure of theſe wounds are, to extract all foreign bodies, and to ſecure the blood-veſſels; for which purpoſe, it will be ſometimes neceſſary to enlarge the opening, if to be done with ſafety; and where probing is neceſſary, the finger ſhould be preferred. If the extraneous body cannot be removed with ſafety, by cutting upon it, the work muſt be left to nature, and the wound muſt be dreſſed ſuperficially; for when a ball, or any other foreign body, is ſunk deep, and lies out of the reach of the finger, the uſe of long forceps is dangerous, and ſeldom effective. Numberleſs inſtances have occurred, wherein bullets have lodged many years, in various parts of the body; ſome of which have at length made their way towards the tegumeats, and been eaſily extracted.

Scarifications are generally neceſſary: they ſerve to releaſe the ſtrictured circle of the wound; larger and deeper inciſions muſt be made, to get at a bleeding artery, to remove ſplintered bones or foreign bodies lying at the bottom of the wound, and to prevent or relieve painful ſtricture and inflammation in the courſe of the faſcia.

If the wound hath not bled much, bleeding will be adviſable, and in plethoric habits ſhould be repeated accordingly, particularly in wounds of the cheſt. For the firſt fortnight, it will be neceſſary to keep the patient on a cool regimen; and a ſtool ſhould

ſhould be procured every day, by glyſter, or by ſome gentle aperient.

The moſt uſeful applications are, light, eaſy dreſſings, ſaturnine lotions or poultices; but theſe wounds being of the nature of contuſed wounds, the ſuppurative proceſs is to be expected; in which ſtate, the bread and milk poultice is moſt applicable. Spirituous applications do not anſwer on theſe occaſions. If the ſore ſhould prove gangrenous, or the habit be impoveriſhed, act accordingly.

Gunſhot wounds ſeldom bleed much, unleſs a large veſſel be injured; the ball forming an eſchar which generally ſeparates in a few days, and is followed by a copious diſcharge; it is neceſſary therefore to wait patiently for the ſeparation of the eſchar, particularly if it borders upon any material blood-veſſel.

The tourniquet is always a neceſſary appendage, and ſhould be ready to a ſingle turn *on the limb*, when the wound is in the courſe of a large artery, and attended with a throbbing pulſe.

Should the patient complain of much fulneſs and throbbing in the wound, a ſudden guſh of blood may follow, which has ſometimes been attended with fatal conſequences, eſpecially if preceded by a continued diſcharge of ſanious and ichorous matter: in ſuch a caſe, timely bleedings, and the bark, are proper remedies.

Opium in this, as in all other painful complaints, proves an uſeful remedy. In cachectic and ſcorbutic habits, if the diſcharge be glairy or gleety, or the wound has a pale and flabby aſpect, no medicine is preferable to that and the bark in red wine. Lime-water, with a ſlight addition of milk, is uſeful in the latter ſtage. When theſe wounds are deſperate in their nature and ſituation, particularly where ſome important joint is ſhattered and torn, alſo in fractures complicated with the diviſion of a large artery, amputation is ſeldom or never to be delayed; yet

under ſuch circumſtances, limbs have been unexpectedly ſaved.

Venomous Wounds. The moſt formidable wound of the kind which we have to guard againſt the effect of in this climate, is the bite of *mad animals*; *dogs* particularly, as happening moſt frequently; its deſcription and ſymptoms are as follow:—No ſudden effect on the conſtitution is obſerved from the bite of a mad dog; and the wound itſelf is not more difficult to heal than lacerated wounds in general, of the ſame magnitude. The patient has alſo no particular affection, except dejection of ſpirits from a dread of its conſequences, till about a month or ſix weeks after the accident; ſooner or later, according to the circumſtances; when redneſs, heat, and tenſion *ſometimes* attend the edges of the wound, and wandering pains and ſpaſms diverge from the part, accompanied with nauſea, difficult reſpiration, anxiety about the præcordia, vertigo, and loſs of ſtrength; great depreſſion of ſpirits, and the love of ſolitude enſue; ſleep is diſturbed with twitchings, horrid dreams, and reſtleſſneſs; and the pulſe is all this time, quick, weak, and irregular.

On the firſt or ſecond day, the ſymptoms gradually increaſing, comes on a peculiar affection of the throat, which, upon every attempt to drink, occaſions a ſenſe of ſuffocation, and a ſpaſmodic contraction of the organs of reſpiration; which ſymptoms, even the common air in inſpiration will produce, particularly if the weather be moiſt. This anxiety, and not being able to drink without the greateſt difficulty, have given the diſeaſe the appellation of Hydrophobia.

Whilſt the general ſymptoms are increaſing, the ſaliva comes off in a viſcid and frothy ſtate, with powerful and repeated efforts to relieve the throat from the irritation it occaſions, attended with a ſingular kind of noiſe, little different from common hawking, which perſons prepoſſeſſed with the vulgar notion,

notion, conclude to be ſimilar to the barking of a dog: the light, at this ſtage of the diſorder, begins to grow intolerable, and the urine flows involuntarily.

At this awful period, come forward heat and fluſhing, with a ſtrangulated appearance in the face and neck, together with a quicker pulſe, with ſome weaker, with others ſtronger; alſo, a tentigo penis, and an involuntary emiſſion of ſemen. Convulſive ſpaſms affect moſt parts of the body. Some are ſeized with a fierce delirium, or outrageous madneſs; others ſhew a fixed melancholy, with a moſt pitiable countenance, having a perfect ſenſe of their miſerable ſtate: at length the lower limbs become paralytic, convulſions increaſe, the pulſe grows languid, cold ſweats enſue, and death ſoon puts an end to the general diſtreſs, which commonly happens on the third or fourth day from the attack. Such was nearly the melancholy progreſſion of ſymptoms with a poor huſbandman, who, within an hour of his death, called for ſeveral of his acquaintance, and took his laſt farewel of them, by ſhaking hands with each; at the ſame moment telling them, that they need not be afraid of him, for he would not hurt them.

This poor diſtreſſed object had been deprived of the uſe of his lower limbs for ſome hours, which in his reſtleſs ſtate he dragged after him round the room, hawking up and ſcattering about the ſaliva, and expreſſing as much horror at the name of a bed, as this miſerable claſs of patients do at the ſight of water; both which equally influenced his mind with the dread of ſuffocation. Whilſt he was performing the foregoing act of friendſhip with his fellow ſervants, his mind being particularly agitated, a general convulſion ſeized him, and curled him up in a heap, which was ſucceeded by as ſudden an extenſion, and that cloſed the melancholy ſcene.

The Bite of a Viper is alſo attended with violent ſymptoms, and is in this country next in force to the

preceding. A pungent pain ſeizes the part, inflammation comes on, the redneſs gradually changes to a bruiſe-like appearance, that ſometimes diffuſes itſelf more generally; retchings, bilious vomitings, a fixed pain about the præcordia, weak pulſe, languor, deliquium, cold ſweats, and even death itſelf, have been the conſequences, in very weak and irritable conſtitutions.

The Bite of the Rattle-Snake is much more formidable than that of the viper, and ſooner pervades the ſyſtem.

The moſt particular wound of the venomous kind, if it may be called ſo with any degree of propriety, is that produced by the Guinea-Worm. Theſe creatures are hatched from ova, that float in the rivers and waters in hot climates, but principally upon the coaſt of Guinea, and in the Weſt Indies. It has a blackiſh head, is of a tape-like appearance, and ſometimes grows to above a foot in length. It generally fixes itſelf in the leg or thigh, and is preceded in its appearance by an irkſome boil. The head of this involuted animal is viſible in a day or two after the ſore has burſt; and the ulcer can never be healed, till the whole of the worm is extracted: the method of doing which, as practiſed by the negroes, and in the hoſpitals, is as ſingular as the production. They fix the head of the worm to a ſmall round bit of wood, lead, twiſted ſilk, or quill, and every day roll as much of the worm upon it as may be done without breaking, until the whole is extracted; then heal as in common.

The ſtings of hornets, waſps, bees, &c. often give great pain, but do not immediately affect the conſtitution, except in very irritable habits. Two remarkable inſtances are known to have occurred in Norfolk, from the ſting of a bee. A man, to all appearance healthy and well, was ſtung by a bee in the hand, and ſurvived the accident not many ſeconds. He ſaid to his companion, who was walking up

a lane

a lane with him, "I am ſtung by a bee," became faint, and, reclining on the bank of the hedge-row, expired. Some time after, the ſon of this man was ſtung by an inſect of like kind; which accident was attended with an alarming degree of fever and inflammation for ſeveral days.

Cauſes. *Hydrophobia*, or canine madneſs, is occaſioned by a virus *ſui generis*, which being introduced through a wound made by the bite of a *mad animal*, gradually diffuſes its effect throughout the nervous ſyſtem. The poiſon from the bite of a *Viper* is probably abſorbed; but a late ingenious writer on that ſubject has aſſerted the contrary. The ſtings of hornets, waſps, bees, &c. have a local effect in general.

Cure. The cure for the bite of a *mad Dog*, or any other quadruped that breeds madneſs, or has a power of communicating it, may be divided into two parts—the preventative, and the curative; the former of which, if taken in due time, is moſt likely to ſucceed.

Cauterization, cupping the part, or blowing it up with gunpowder, and waſhing it well with ſalt and water, ſoon after the accident, are ſaid to be efficacious, by preventing abſorption from taking place. Sucking the wound, and immediately after applying a bliſter, is alſo recommended for that purpoſe. But timely exciſion of every part bitten, or that was open to the virus is the only ſure preventative. After each of the former proceſſes, it is recommended to rub into the legs or thighs daily, half a dram of a dram of the ſtrong mercurial ointment, or ſo much as will raiſe a ſlight ſalivation, and to dreſs the wound with the following ſtimulating ointment, to excite and keep up a neceſſary diſcharge. When the nature or ſituation of the wounded part prohibits the full uſe of the knife, the following remedy is ſtrongly recommended.

Undoubted proofs have been given of the good effects of *ablution* with water, with or without a

moderate portion of common ſalt, or alkali; which latter is ſaid to have an attractive quality towards mucus or ſaliva. This proceſs is to be induſtriouſly purſued, firſt with warm, then with cold water, for three or four hours together. If the teeth have paſſed deep into the fleſh, and the opening of the wound be too much confined, it will be neceſſary to uſe the knife, and to expoſe every part of it to view, if poſſible. In ſuch wounds, or thoſe that are much torn, a long continued ſtream of warm water from a tea-pot or kettle, held ſome height above the part, is a mode moſt to be confided in.

Ablution, attentively and aſſiduouſly purſued, will inſure ſucceſs, where exciſion would be unwarrantable. Cautery and cauſtic ſhould never be depended upon.

The great profeſſor, in his firſt lines, gives it as his opinion, "that the efficacy of mercury, given very largely, and perſiſted in for a long time, both as a means of preventing, and of curing the diſeaſe when actually come one, is better vouched by experience, than that of any other medicine hitherto propoſed, or commonly applied."

The Ormſkirk, Calthorpe, and Oriental medicines, have loſt their former repute; and even Dr. Mead's infallible medicine is totally diſregarded. Extirpation, ablution, and the mercurial courſe, have juſtly taken place of thoſe uncertain remedies.

No curative method is yet laid down as abſolutely effectual in this diſeaſe after the ſymptoms have come on. Great authority gives mercury the reputation of curing at that period. Some have preſcribed repeated bleedings, according to the ſtrength of the pulſe, and the violence of the ſymptoms. Bleeding, the warm bath, and opium in large doſes, have been united without ſucceſs. Repeated doſes of ether, and bliſters to the head and throat, have been ſuggeſted; but the more probable means are, frequent doſes of opium, from one to three or more grains, every three

or four hours, until it has produced ſome ſenſible effect *, and rubbing a ſufficient quantity of mercurial ointment into the arms, legs, or thighs, or of calomel into the gums, to excite a ſpitting, which ought to be continued.

The author, conceiving the virus to have a ſingular, but late effect, by excitement on the nervous ſyſtem only, recommends extirpation and ablution, even up to the previous ſymptom of pain in the bitten part, or the hydrophobic ſymptom.

A complete cure, even in the hydrophobic ſtate, has been performed, by forcibly exhibiting ſmall portions of ſweet oil, and frequently rubbing in the ſame over the ſurface of the body. For this very remarkable caſe, vide London Medical Memoirs, Vol. III.

Quere, whether relief might not be received from extirpation at a later ſtage of the complaint.

The remedies recommended againſt *bite of a Viper*, are, ſweet oil, and viper's fat: thoſe who make it their buſineſs to catch thoſe reptiles, look upon theſe ſimples as effectual defenſatives againſt the ſevereſt bite. Irritable and bilious habits ſuffer moſt from this kind of wound; and on ſuch occaſions, an emetic, and an oily purge, ſhould be taken at firſt: ſometimes bleeding and poulticing are neceſſary. Camphor and opium, with ipecacuanha, are conſidered as excellent remedies. In this venomous wound, it has been recommended to cut out the injured part, as a preventative of the uſual ſymptoms.

The bite of the Rattle-Snake is exceedingly deſtructive: it is almoſt immediately attended with purple ſpots, and difficult reſpiration. Some bleed at firſt, and give alexipharmics, particularly a decoction of the rattle-ſnake-root, and apply that root

* An epithem made with opium, ſoftened down with tinct. opii, and applied externally to the throat.

maſhed, or freſh tobacco leaves, repeatedly to the wound. The following is the grand Indian recipe:

"Give a large ſpoonful of the expreſſed juice of the leaves or roots of horehound and plantain, which, if the patient be much ſwelled, muſt be forced down the throat; if the firſt ſpoonful ſhould not ſuffice, give another ſoon after."

They alſo apply tobacco-leaf, ſteeped in rum, repeatedly to the wound. In ſuch caſes, exciſion would probably be moſt effective.

To the bites and ſtings of hornets, waſps, &c. apply vinegar and oil, ſpirit of hartſhorn, laudanum, honey and milk, Goulard or bread poultice, and the like, according to the ſeverity of the ſymptoms.

PRACTICAL

PRACTICAL SURGERY.

PART THE SECOND.

SUTURES.

RECENT wounds, that are free from extraneous bodies, loſs of ſubſtance, and much inflammation, that are not much contuſed or lacerated, and whoſe lips can be brought into ſome degree of appoſition, alſo that happen to parts that are ſubject to contract, may be greatly aſſiſted by Suture; of which there are five different kinds.

The Dry Suture. A plaſter made of the ſimple litharge plaſter ſix parts, and one of yellow reſin, is thinly ſpread on a cloſe rag, which is cut into ſlips of proper length, and in a ſhape adapted to the nature and form of the part; theſe ſlips or ſtrips are to be fixed acroſs the wound at moderate diſtances from each other, in immediate contact with that, and the ſkin on each ſide of it, ſo as to retain the edges of the wound as cloſe together, and as appoſite as poſſible. The uniting bandage is a great aſſiſtant to this ſuture. The dry ſuture is moſt uſeful in ſuperficial and longitudinal wounds, to avoid deformity, or to heal, by what is called, the firſt intention.

The Interrupted Suture is performed as follows:— Having cleanſed the wound of dirt and grumous blood, its lips are to be brought as cloſe and appoſite as poſſible; the needle, armed with a waxed ligature of proper ſize, is generally paſſed about two-fifths of an inch from each edge, and tied with a double

double knot. The ligature is ſometimes made with a ſingle knot, over which a ſmall round linen compreſs is applied, which is faſtened round with a ſecond ſingle knot and a ſlip-knot; to the end that the ſtitches may be conveniently looſened, if required. This mode was much practiſed ſome time ſince; but, in common wounds, the precaution is conſidered as ſcarce ever neceſſary. When the lips are united, the threads ſhould be drawn out. The number of ſtitches muſt be proportioned to the extent of the wound, and its angular points, their depth, and to the degree of retraction in the divided parts. The dry ſuture in the interval ſpaces, and a gentle ſupporting bandage, are great helps to this kind of ſuture. The beſt and ſafeſt mode of paſſing the needle on moſt occaſions, particularly when the wound is in the neighbourhood of a nerve, tendon, or blood-veſſel, is to fix a flat needle at each end of the ligature, and paſs them at oppoſite ſides, from within outward.

The interrupted ſuture is commonly uſed in wounds that are deep, large, and angular; and ſometimes, to keep forwards the integuments after an operation; which intention may moſtly be better effected by proper compreſs and bandage; ſince in ſuch a caſe great inflammation frequently follows; for even in common wounds, more particularly when they happen to groſs habits, inflammation will ſometimes proceed to ſo great a degree, as to require the ſtitches to be withdrawn.

The Twiſted Suture is performed, by bringing the lips of the wound in a freſh bleeding ſtate exactly together, and thruſting one or more pins, according to its ſize, through the middle of both edges; then twiſting a piece of waxed thread ſeveral times acroſs the middle, and round the ends of the pins in the following form ∞. The beſt pins for this purpoſe are made of ſilver or gold; the former muſt be tipped with ſteel points, the latter may be made to do without: when paſſed through, the points may be

be ſnipped off, obſerving afterwards to place a ſmall piece of fine rag or lint under each end of the pins, to prevent them injuring the ſubjacent parts.

This ſuture is principally uſed after the operation for the hare-lip: it has been advantageouſly uſed in uniting the edges of the urethra, as may be ſeen in Mr. Warner's Caſes in Surgery.

The Glover's Suture is made with a fine ſtrait needle, armed with ſmall thread or ſilk: it has been principally employed in wounds of the inteſtines, by paſſing the thread through the lips of wounds of the gut, in the manner that a glove is uſually ſewed; obſerving to make the ſtitches about one tenth of an inch diſtant from each other, and to leave thread enough at each end, to hang out ſome length from the external wound; which threads were paſſed with the ſtrait needle, through the internal and lower edges of the wound in the belly: by which means the inteſtine was brought into contact with the peritonæum, or inner ſurface of the abdomen, and made to adhere thereto. This thread was generally withdrawn in a week or ten days, or as ſoon as it could be done without force.

This ſuture may have been uſeful in ſuch wounds of the inteſtines, as are ſufficiently large to require it: but a ſlighter degree of confinement is ſaid to anſwer every neceſſary purpoſe, as mentioned under Wounds of the Inteſtines, without the parade of the glove-ſtitch, and a troubleſome puccuring or interrupting proceſs; and that a ſimple ſtitch or two may be moſtly ſufficient, whether the gut be divided through or not.—Vide Mr. *John Bell's* ingenious Diſcourſes on Wounds; in which the ſtrictures on the errors of former practitioners, as well as ſome of modern date, are extremely juſt and inſtructive, but delivered in a language rather too ſportive and ſarcaſtical.

The Quilled Suture was much in uſe with the ancients, and is better adapted to large gaping wounds than

than the interrupted: to perform which, a large crooked needle, with a ſtrong double ligature well waxed and looped at the end, is to be paſſed through each ſide of the wound, at about an inch from its edges; fixing a roll of plaſter, ſpread on rag or ſilk, through the bow of the ligature on one ſide, and another roll of the ſame ſize on the other, between the ends of the ligature, which are to be tied over the latter with a ſingle and ſlip-knot. When the wound is ſo long as to require three ligatures, the roll or quill ſhould be of ſufficient length to paſs each loop or bow, and the middle ligature ſhould be tied firſt.

This future in large wounds is preferable to the interrupted, being leſs apt to tear out. It was uſed not many years ago in cloſing the abdomen, after the Cæſarean operation; wherein the inciſion was full ſix inches in length, which was ſewed up with four ſtitches at equal diſtances, and an inch and a half from each edge.

DIVIDED AND RUPTURED TENDON.

The practice of uniting large tendons completely divided, by forcing the retracted ends into contact, and retaining them ſo by future, is juſtly exploded. Some former practitioners went ſo far, as even to lay bare the extremities of a ruptured tendo achillis for that purpoſe: but later practice has proved, by various inſtances, that there is no neceſſity for forcibly bringing the extremities of the tendon together in either caſe, whether wounded or ruptured, ſince adheſion to the adjacent parts, and the exudation of a connecting medium, will ſupply every defect of that kind: beſides, it is well known that cures have been effectually accompliſhed, where the extremities of the retracted tendon could never be brought within an inch of each other. The chief thing to be done, therefore, is to counteract the retractive

power of the muſcles, by a flexed or extended poſition of the limb, according to the ſtate of the injured part; and to retain the muſcles in that ſituation, and prevent their action by means of a thin flannel bandage. The wound is to be treated in the common way.

It ſometimes happens, either from great irritability of the nervous ſyſtem, or a peculiar unintelligible ſtate of the conſtitution, that a puncture or partial diviſion of a tendon or nerve, will produce violent pain, inflammation, convulſions, and even death. In caſes of this kind, previous to the extreme ſymptoms, or provided the ſevere pain has not been relieved, by opium given, in large doſes, it has been found abſolutely neceſſary to divide the injured part completely, although at the hazard of its ſenſibility and uſe. At other times, and in different habits, ſuch accidents have produced little or no trouble.

The Ruptured Tendo Achillis. The chief thing neceſſary in this caſe is, to extend the foot, and ſuſpend the heel; which may be effected by means of a ſlipper made of double quilted ticking, and a ſtrap of leather or ribband reaching from the heel to a circular piece or garter above the calf of the leg. In every caſe of ruptured tendon, care ſhould be taken not to put the injured part upon the ſtretch before union is perfectly conſolidated.

For this improved knowledge and treatment we are indebted to two principal anatomiſts of this century, Dr. Monro of Edinburgh, and Mr. John Hunter, who both perſonally experienced its uſe and convenience.

ANEURISM.

DESCRIPTION. This is a ſoft, and commonly a throbbing tumour of blood, formed either by the dilatation or diviſion of an artery. It may be divided

vided into four different claſſes; the True, Mixed, Spurious, and Varicoſe.

The True Aneuriſm is a circumſcribed tumour, ariſing from a weakneſs of the coats of the artery. This ſwelling is at firſt ſmall and confined, attended with pulſation, and diſappearing upon preſſure: it afterwards gradually increaſes, the ſkin retaining its natural colour and appearance. After a time, the blood cannot be compreſſed, the pulſation grows weaker, or is not to be felt, the ſkin begins to turn pale, is ſoft and œdematous, afterwards grows livid and gangrenous, or cracks, whence oozes a ſerous matter, and blood in a ſhort time burſts forth. Should the diſeaſed veſſel be large, and the effuſion great, death is moſt likely to be the immediate conſequence.

The increaſe and pulſation in the aneuriſmal tumours of the larger veſſels, which are chiefly ſubject to this ſpecies of diſeaſe, have been known to affect the adjacent bones ſo much, as even to diſplace, elevate, and diſſolve them.

The Mixed Aneuriſm may be produced, by injury done to the external coat of the artery, ſo as to occaſion partial weakneſs, and a protruſion of the internal coat. This kind alſo begins with a ſmall circumſcribed pulſating tumour, which gradually increaſes, diſappears upon preſſure, and in proceſs of time is attended with the ſymptoms of the former.

The Spurious or Falſe Aneuriſm is produced by a wound or puncture penetrating through both the coats. It begins with a very ſmall tumour, which is ſoft, and pulſates ſtrongly; it has ſometimes continued pretty nearly of the ſame ſize, for days, months, and years; then gradually increaſing, diffuſes and extends itſelf within the cellular membrane, according to the firmneſs or laxity of the contingent parts. At other times the blood ſpreads itſelf greatly, and brings on a conſiderable tightneſs in the limb in a few hours; and a part of the extravaſated blood paſſing

ſuper-

ſuperficially, occaſions great diſcolouration of the ſkin.

The diffuſed contents which are deep ſeated ſoon coagulate, and acquire great firmneſs; and the pulſation leſſens in proportion, till it is entirely loſt. The tumour increaſing, the limb becomes more afflicted with pain, ſtiffneſs, and deficiency of motion; and provided the operation is poſtponed or neglected too long, caries off the contiguous bone, and gangrene will follow.

The Varicoſe Aneuriſm was firſt diſcriminated by the late great anatomiſt, Dr. William Hunter, who at the time of his diſcovery expreſſed a doubt whether it ought to be called Aneuriſm or Varix, or both, or neither; but afterwards gave it the denomination of Varicoſe Aneuriſm. It may be conſidered as a ſpecies of ſpurious aneuriſm, ſince it originates from a wound made through the vein into the adjacent artery. It differs from the ſpurious aneuriſm in the following particulars: the vein lying in contact with the artery, the orifices of each are ſo exactly oppoſite at the under part of the vein, as to remain open to each other when the teguments and upper orifice of the vein are healed up; by which means the blood is found to paſs immediately from the opening of the artery into that of the vein, with a pulſatile jarring force, and a ſtrange hiſſing noiſe, like what is made by continuing the ſound of the letter R in a whiſper, as the Doctor has deſcribed it. This tremulous motion ſtops and returns by making and ceaſing compreſſion, and is even viſible in thin habits. The blood transfuſed is generally in motion, conſequently in its fluid ſtate; the vein is much enlarged at and about the opening, but is found to return to its natural ſize, at a ſmall diſtance above and below the elbow. The artery is ſmaller than natural in the wriſt, but larger in the arm. In one inſtance, the Doctor had obſerved, that when the arm was held up, the vein totally ſubſided; in another,

another, a kind of pouch was to be felt near to the punctured part: if this bag be large and irregular in its form, and the cellular membrane be more yielding at one place than at another, or if the fascia of the muscle be unequally tight, a sort of canal may be formed between the two vessels, and coagulation may be produced, as in the common spurious aneurism.

This enumeration of symptoms, if properly attended to, will be sufficient to distinguish it from any other tumour. For a more enlarged account of this complaint and its discovery, vide Med. Observ. vol. 2, p. 390.

Aneurisms have been mistaken for collections of matter; Mr. Warner ingeniously mentions in his cases an instance of this kind; wherein the whole of the thigh was greatly tumefied, the patient was hectic and much emaciated, and not the least pulsation could be felt. The injury was occasioned by falling off a man's back, about four months before the opening was made, and the knee and parts adjacent were principally affected.

Strong pulsation is generally to be felt at the beginning of aneurisms, whence the nature of the disease is at that time easily to be ascertained; but when the tumour is large, and the coagulum is so firm as to render pulsation imperceptible, the only means of proving the matter will be, by strict enquiry into the rise and progress of the complaint, and an examination whether the most prominent part lies in the course of a large artery. Pulsation, and disappearance of the tumour on compression, are the true characteristics of an incipient aneurism; but are seldom to be perceived, or produced, in the firm state of its contents. The distinction at that time being so uncertain, such swellings had better not be meddled with when situated so as not to admit of applying the tourniquet.

Sometimes abscesses which lie near a principal artery

artery will partake ſo much of the pulſation, as to render the diſtinction difficult; which was the caſe with the lad who had his breaſt-bone fractured, as mentioned by the ſame accurate obſerver here quoted; where the broken bones were forced aſunder, and the intermediate ſpace was occupied by a conſiderable tumour, which receded upon preſſure, and reſumed its former ſize after the compreſſion was removed: it had a ſtrong pulſation, and the integuments bore their natural colour. The ſituation of the ſwelling and ſymptoms were ſufficient reaſons for letting it take its courſe; it burſt in a few weeks, diſcharged a large quantity of matter, and did well with ſuperficial dreſſings.

Causes. The True Aneuriſm ariſes from a diſeaſed or weakened ſtate of the coats of the artery, which may be produced by violent exertion or a debilitated habit. The Mixed or Spurious may proceed from contiguous ſores, the ſplinters of a fractured bone, blows or wounds with ſharp inſtruments, punctures with lancet, &c. The Varicoſe Aneuriſm is cauſed by wounding the artery through the vein where the veſſels are in cloſe contact with each other.

Cure. In the early ſtage of the *True Aneuriſm*, the moſt proper treatment is, to compreſs the tumour in moderate degree, ſo as gently to ſupport the weak part, and reſiſt the propelling force, and to keep the body in a temperate ſtate. Occaſional bleeding and gentle laxatives are alſo neceſſary; violent exertion, or every emotion that will tend to increaſe the momentum, muſt be avoided. Opiates are the beſt palliatives in the latter ſtage; the operation in ſuch caſes has but too ſhort an effect.

The Mixed Aneuriſm, if it ariſe from a partial weakneſs or injury, may be relieved by the foregoing means; otherwiſe the operation ſhould be called to its aid; particularly in ſuch parts as will admit of the uſe of the tourniquet, or the neceſſary check being given to the circulation through them.

The Spurious or Falſe Aneuriſm. For reaſons given under the article Accidents from Bleeding, it appears to be wrong to make great preſſure upon this tumour; ſince the return of the blood through the vein muſt be impeded by it, and the effuſion of the artery is likely to be increaſed; inſtead of which it has been recommended to let the blood flow through the orifice in large quantity, or to leſſen the impetus by opening ſome other vein, to enjoin reſt, to keep the body cool and lax, and obſerve a ſpare diet; to cloſe the external orifice with ſlips of plaſter, and uſe no bandage. Others uſe compreſſes in the courſe of the artery above and below the orifice, and immediately upon the injured part, with a tight ſpiral bandage. Some few inſtances may have done well by either of theſe methods of cure, but this ſpecies moſtly requires the operation.

The Varicoſe Aneuriſm. Moderate preſſure may be ſerviceable in this complaint, as a ſupport to the coats of the vein; but inſtances are well authenticated, proving that they have continued for many years without any attempt to relieve, in nearly the ſame ſtate as at firſt. The diſcovery of this diſtinct kind of aneuriſm, as it is called, is of great importance, ſince it will prevent an unneceſſary attempt towards a cure, by means of a dangerous, though, on other occaſions, a neceſſary operation.

The operation for the aneuriſm may be performed after the following manner: The tourniquet and ligature being fixed upon the ſuperior part of the limb, and the circulation fully ſuppreſſed, ſuppoſe in the humeral artery, the arm ſhould be placed on a table, in ſuch a poſition as will beſt expoſe the whole of the tumour to view; an inciſion is then to be made with the ſcalpel, from the upper extremity of the ſwelling to its moſt inferior part, in the courſe of the artery, through the ſkin and cellular membrane, ſo as to expoſe the coagulated body, which

will appear in form of a membranous ſubſtance; an opening is then made with the lancet into the middle of the tumour, large enough to admit the end of the left fore-finger, upon which the blunt-pointed biſtoury is to be paſſed both upwards and downwards, to the full extent of the cavity. The coagulated blood being removed with the fingers, and the whole ſponged clean, the tourniquet may be ſlackened a little, the more readily to diſcover the injured part of the artery. It is a matter of diſpute between ſome men of eminence, whether the coagulum ſhould be diſcharged or not; both methods have ſucceeded. Vide the laſt of this article. A crooked needle, ſharp at its ſides only, and armed with a broad flat waxed ligature, is to be paſſed round the artery, juſt above the orifice, in the firſt inſtance, and another at the ſame diſtance below it; which ligatures are to be tied tight, paſſing them, as is uſual, twice through the firſt nooſe, and then making the ſingle knot over it, and leaving the ends a ſufficient length beyond the edges of the wound.

The tourniquet may then be looſened; and if no blood be diſcharged from the artery, the whole is to be dreſſed with lint, a pledgit of white cerate, a ſoft linen compreſs, and ſlight retentive bandage. The patient ſhould be immediately removed to bed, the limb placed upon a pillow, in the moſt eaſy poſture; and an opiate muſt be occaſionally given.

In making the ligature round the veſſel, it will be proper to avoid taking in the nerve, which may be readily done by bending the arm a little, and raiſing the artery, either with the probe introduced into its orifice, or with the hook, or by pinching it up with the finger and thumb. The needle ſhould have no edge at its convex part; and it is adviſeable to uſe one with a blunt end; an eye-probe bent will anſwer the purpoſe equally well. It will be prudent to have the amputating inſtruments in readineſs, for

fear ſecuring the veſſel ſhould be impracticable. The limb is commonly for a few hours without pulſation, and for ſome time affected with numbneſs, and a ſenſe of cold.

The patient's diet ſhould be managed agreeably to the nature and ſtrength of the conſtitution, and particular ſymptoms: the wound is alſo to be treated accordingly.

A new and ingenious method of curing the falſe aneuriſm from bleeding, without rendering the artery impervious, was ſuggeſted and practiſed with ſucceſs, by Mr. Lambert of Newcaſtle, in the year 1759, as appears by a paper publiſhed in Med. Obſ. and Enq. vol. 2. This was effected by paſſing a ſmall ſteel pin, rather more than a quarter of an inch in length, through the lips of the wound in the artery, which was ſecured by twiſting a thread round it, as for the hare-lip; by which means the veſſel was perfectly cloſed, and healed up. Previous to paſſing the pin, the inciſion was made according to uſual extent, in order to lay the artery ſufficiently bare; and two ligatures were proviſionally paſſed under the veſſel, one above, and the other below the orifice.

It was firſt dreſſed on the fourth day from the operation, when the whole had a good appearance: the pin came away on the fourteenth day, and every part was healed on the twenty-ſecond day, except where the ligatures remained, but which were never tied; on the laſt-mentioned day they were removed, and the wound was perfectly healed in a few days after. The pulſe was very little weaker than uſual.

There are but few opportunities for performing an operation of this kind in the manner deſcribed by Mr. Lambert, and as few ſurgeons who would venture upon it in private practice, without further proofs of its good effects; it is for theſe reaſons perhaps that we have not heard of a ſecond trial.

Rational

Rational conjectures are formed againſt it being frequently performed; ſtill ſhould it be again attended with ſucceſs, there might be reaſon to believe, that it would be a valuable as well as an ingenious mode of operating in ſimilar caſes.

It has been obſerved by Mr. Sharp, that aneuriſms from bleeding commonly happen above the diviſion of the humoral artery; and that to render the veſſel impervious, appears a deſperate remedy, and likely to produce mortification; but we know that although for ſome time after the operation, the degree of pulſe is ſcarcely diſtinguiſhable, ſucceſs has attended the operation, in aneuriſms both of the main trunk of the humoral and the femoral arteries; more particularly in the popliteal aneuriſm, where the femoral artery has been tied up high in the thigh juſt below the branching off of the arteria profunda, by which and its inoſculations the circulation has been reſtored. In this operation the tumour of blood has been left to itſelf, and gone down gradually without being opened and diſcharged.

Mr. John Bell of Edinburgh, in his Diſcourſes before quoted, has given a moſt extraordinary caſe of an aneuriſm in the poſterior iliac artery, which ſheweth the poſſibility of operating with ſucceſs, above the branching off of the profunda. This caſe is of ſo new and intereſting a nature, and gives ſo ſtrong an inſtance of the operator's ſkill and reſolution, that a faithful recital of it in Mr. Bell's own words can need no apology.

"A poor man, who was by trade a leech-catcher, "fell as he was ſtepping out of a boat; and the "long and pointed ſciſſars which are uſed in his "buſineſs, being in his pocket, pierced his hip "exactly over the ſciatic notch, where the great "iliac artery comes out from the pelvis. The "artery was ſtruck with the point of the ſciſſars; "it bled furiouſly; the patient fainted; and in ſo

" narrow and deep a wound, the ſurgeon, when he " came, found little difficulty in ſtopping it up, " and leſs difficulty ſtill in making it heal. The " outward wound was cured; the great tumor ſoon " formed; and the man travelled up from the " north country, where the accident had befallen " him, and in ſix weeks after arrived in our hoſpi- " tal here, with a prodigious tumour of his hip, his " thigh rigidly contracted, the ham bended, the " whole leg ſhrunk, and cold alſo and uſeleſs, as if " it had been an aneuriſm rather of the artery on " the fore-part of the thigh.

" The tumour was of a prodigious ſize, and by " that very circumſtance of its being one of the " greateſt aneuriſms, it loſt all the characteriſtics of " aneuriſm; eſpecially there was no pulſation, no " retroceſſion of the blood when the tumor was " preſſed upon; there was nothing peculiar ex- " cept this, that the great and ſudden diſtenſion was " the cauſe of great pain; and from the continual " pain, lameneſs, and hopes of a cure, he was " ready to ſubmit to any thing, beſeeching us to " operate.

" There was little doubt of its being a great " aneuriſm, but there was a poſſibility alſo of its " being a vaſt abſceſs; and as it was reſolved, in " conſultation, that he ſhould be carried into the " operation room; that a ſmall inciſion ſhould be " made; that the ſkin being cut, the bag itſelf " ſhould be juſt touched with the point of a lancet; " if found to contain matter, it ſhould be fully " opened; but if blood, that it was then to be " conſidered as an aneuriſm of ſo particular a kind, " as to entitle us to call for a full conſultation.

" I made an inciſion two inches and a half in " length; the great faſcia in the hip, blue, and " very ſtrong, formed the coat of the tumour; and " under that were ſeen the big fibres of the great " glutæus muſcle. The knife was ſtruck into it;

" and

" and large clots of very firm black blood rolled out
" by the tenſeneſs of the tumour, which began to
" emit the clots in this way the moment that it was
" opened at one point. There was one thing fur-
" ther deſirable before we put the patient to bed,
" that we ſhould underſtand the caſe ſo far as to be
" able to report to the conſultation, whether the
" artery was abſolutely open, and whether it was the
" great artery of the hip. I continued therefore
" (knowing that the opening I had made could be
" covered with the point of the thumb) to pull out
" a few more clots of blood, till the warm and
" florid blood began to flow; I then puſhed in a
" tent-like compreſs into the ſmall wound of the
" tumour, (viz. of the faſcia) laid a broad compreſs
" over the outward wound, and put the patient to
" bed, with one of the pupils holding the hand upon
" his hip.

" This was done at one o'clock, and at four the
" conſultation met, and the operation was per-
" formed; and in my notes I find two ſteps of the
" operation chiefly marked: 1. That upon opening
" the tumour fully with an inciſion of eight inches
" long, and turning out the great clots, the blood
" was thrown out with a whiſking noiſe, and with
" ſuch impetus, that the aſſiſtants were covered
" with it, and in a moment twenty hands were
" about the tumour, and the bag was filled with
" ſponges, and cloths of all kinds, which had no
" better effect than the cloths which, in any
" accident, the friends, in great confuſion, wrap
" round a wounded arm; for though the blood was
" not thrown in a full ſtream, not in jets, it was
" ſeen riſing through the edges of the inciſion; it
" floated by the ſides of the cloths, which were
" preſſed down by the hands of the aſſiſtants. But
" we knew it alſo by a more alarming ſign; for
" the man who was at firſt lying not flat, but ſup-
" porting himſelf on his elbows, fell down, his arms

" fell lifeleſs, and without pulſe, over the ſide of the " table, his head hung down, and was livid; he " uttered two or three heavy groans, and we be- " lieved him dead.

" 2. Seeing in this critical moment that he was " to be ſaved, it was to be only by a ſudden ſtroke. " I ran the biſtoury upwards and downwards, and at " once made my inciſion two feet in length. I " thruſt my hand down to the bottom of the tu- " mour, turned off the great ſponge which was " over the artery, felt the warm jet of blood, put " the point of my finger upon the mouth of the " artery; then I felt diſtinctly its pulſe, and then " only was I aſſured that the man was ſtill alive. " The aſſiſtants laid aſide the edges of this prodi- " gious bag, and ſought out the ſeveral ſmaller " ſponges which had been thruſt in; and the bag " being deliberately cleaned, and its edges held " aſide, I kept the fore-finger of my left-hand " ſteady upon the artery, paſſed one of the largeſt " needles round under my fore-finger, ſo as to ſur- " round the artery: one of my friends tied the " ligature; and then, upon lifting the point of my " finger, it was diſtinctly ſeen, that it was the " poſterior iliac artery; that the artery had been " cut fairly acroſs, and had bled with open mouth; " that it was cut, and tied exactly where it turns " over the bone: and although the extremities were " cold, the face of a leaden colour, and the man " had ceaſed to groan, and lay as dead; though " the faint pulſation could not be felt through the " ſkin, in any part of the body; we ſaw the artery " beating ſo ſtrongly, whenever I lifted my finger, " that we were aſſured of our patient's ſafety; how- " ever, he was ſo low, that after laying down the " ſides of the ſac, and putting bandages round his " body to keep all firm, we were obliged to have " a bed brought in; and having given him ſome

" cordials,

" cordials, we left him to ſleep in the great opera-
" tion room, attended by the pupils and nurſes.

" He was cured of this great wound in leſs than
" ſeven months, although his cure was protracted
" by the foul ſuppuration of ſuch a bag, and by
" exfoliations of the ileum and ſacrum, which
" ſpoiled, not ſo much from their having been
" laid bare by the laſt ſudden ſtroke of the knife,
" as by the aneuriſmal blood having lain upon them;
" the exfoliations were very large, and the ſacrum
" eſpecially continued exfoliating to the very day on
" which the wound cloſed.

" I do not know whether this man be recovered
" entirely, for he left the houſe lame, from the
" contractions of the hip and ham, and walking by
" the help of a ſtick; but however he thought him-
" ſelf fit to undertake his profeſſion, and went to
" England with that deſign. (Dr. Farquharſon
" called upon him afterwards on his return, and
" found him walking ſtoutly, and in good health.)

" This was one of the largeſt aneuriſms ever
" heard of, containing not leſs than eight pounds of
" blood. It is an inſtance of one of the leaſt pro-
" bable of all wounds, viz. a ſmall ſharp point
" touching one of the deepeſt arteries, and one of
" the largeſt; and wounding it at the very point
" where it comes out from the trunk of the body,
" and where it cannot be compreſſed; for though
" my friend, Dr. Farquharſon, tried to make ſome
" impreſſion upon the deſcending aorta, by preſſing
" down his fiſt into the belly, ſo as to touch the
" ſpine, ſtill there was a deluge of blood upon
" cutting up the tumour, and the artery beat ſtrongly
" under my finger."

VARIX.

Description. The Varix is an unequal dilatation or ſwelling of the vein, which ſometimes grows large and

and painful, and is apt to burſt; cauſing a plentiful hæmorrhage, or an ulcer. Varices may be formed in all parts of the body, but chiefly in the legs and ankles: when ſmall, they are not much attended to. Women with child, and coſtive habits, are moſt ſubject to them.

Causes. The moſt frequent are, preſſure of the iliac veſſels, particularly during pregnancy, obſtructed meſentery and liver, ſtrains, and violent exertions of the muſcles. It may be alſo occaſioned by a general relaxation of the vaſcular ſyſtem.

Cure. The laced ſtocking, tightened at diſcretion, is the beſt palliative; but thoſe which are large and painful will ſometimes require to be opened, and even extirpated. Heiſter gives us the following as the readieſt mode of treatment: to make a ligature around the lower part of the diſtended vein, then to open the tumour, and let out the grumous blood, healing as in other wounds.

It is alſo recommended to tie the veſſel above and below the varix, as in the aneuriſm; but there can be no occaſion for the ligature above, unleſs extirpation is intended, which may be more readily done by exciſion.

Thoſe who are ſubject to varices ſhould be rather abſtemious in their diet, uſe proper exerciſe, bandage, and friction.

STRAINS *or* SPRAINS.

Description. They are injuries that chiefly happen about the joints, by ſuddenly overſtretching the tendinous, membranous, or ligamentous parts: the conſequences of which are pain, tumour, tenſion, and inflammation, in degree proportionate to the force of the cauſe, the reſiſting powers, and the number of the ligaments or tendons concerned. Sometimes a portion of the fibres is torn aſunder, which circumſtance adds greatly to the violence of

of the ſymptoms, and produces a laſting thickneſs and ſtiffneſs in the part.

Accidents of this kind moſt commonly happen to the wriſt and ankle, which ſeem to be particularly guarded againſt them by ſtrong ligamentous bands: theſe when overſtretched therefore, are productive of more pain and inflammation, than ſome other parts.

When the injury happens at the ankle joint, and the ſurgeon's aſſiſtance has not been timely called for, the whole of the ankle and foot is ſometimes ſo blown up and immoveable, and appears ſo much diſtorted, that it is difficult to determine whether the joint be diſplaced or not. The principal means towards aſcertaining that point are, to mark the particular poſture of the injured foot, to compare it with the other, and to notice the direction in which it moſt readily admits of motion. If diſlocated, the ſole is turned outward or inward, in oppoſite direction to the luxated part; or the foot is longer or ſhorter than in its natural ſtate, according as it is diſplaced. Provided then, that the joint admits of ſome degree of motion directed upward and downward, and that the foot has neither of the inclinations here ſpecified, the ankle may be declared free from diſlocation. In other joints, on the like occaſion, theſe ſymptoms may be reſpectively attended to.

Causes. A fall, blow, or ſudden twiſt of the part, during violent exertion; whence the ligaments, muſcles, and the adjacent tendons, become ſtretched beyond their natural power of action, or their fibres are partially ruptured.

Cure. Sprains may be regularly divided into three ſtages; the effuſive, or ſtate of ſudden diſtenſion, the inflammatory, and that of debility, or loſs of tone.

The popular remedy of plunging the part into cold water, if applied immediately, or very ſoon after

after the accident, is likely to have a good effect; by reſtraining the ſudden effuſion from the ligamentous parts, and giving a timely check to the ſwelling: for in all violent ſtrains of the ligaments and tendons, the obſtinate and painful thickneſs, which often attends them in the latter ſtage, is moſtly in proportion to the ſize of the tumour which came on at firſt.

Topical bleeding, after the uſe of cold aſtringents, is much practiſed of late, with a view to prevent or check inflammation; and is repeated, according to the violence of the ſymptoms, and the ſtrength or habit of the patient. It is alſo ſtrongly recommended in the latter ſtage of the complaint, for the relief of the painfulneſs and thickneſs of the ligaments, &c. &c. Leeches are moſt applicable to the parts round the joints.

In the ſecond, or inflammatory ſtate, reſt is abſolutely neceſſary; thick compreſſes dipped in vinegar, alone, or mixed with equal parts of water, and frequently renewed, alſo in Goulard's vegeto-mineral water, are the moſt approved applications, till the tumour and painful tenſion are ſubſided. The degree of injury and conſequent pain, the inflammation and tenſion in the part, their effect on the general ſyſtem, together with the nature and ſtrength of the conſtitution, will beſt indicate the neceſſity of blood-letting and internal remedies. For which ſee *Contuſion*. When the inflammatory ſymptoms are much abated, particularly in leuco-phlegmatic habits, it will be proper to bathe the part with camphorated ſpirit, opodeldock, or arquebuſade mixed with either of the two firſt mentioned diſcutients, or by themſelves. Bandage will then be neceſſary, ſufficient to ſupport the lame parts; and the joint ought to be now and then gently put in motion with the aſſiſtance of the hand, to prevent rigidity in the ligamentous and tendinous parts.

Should the recovery be ſlow and tedious, it will be

be right to immerge the part in cold water, or to pump upon it every other day at leaſt, rubbing it well afterwards with a coarſe cloth, or a fleſh-bruſh.

Proper bandage applied ſoon after receiving the injury, has often proved effectual in ſlight caſes; but it is well known to have been particularly ſo, after the tenſion and inflammation were removed, in that kind of lameneſs and painful ſpaſm, which ſometimes follow violent ſprains and contuſions.

The painful ſtiffneſs of the ligaments, &c. has been ſometimes remedied by the means preſcribed for anchyloſis. The warm waters of Bath and Buxton have been ſucceſsfully uſed on ſuch occaſions, particularly when the injury was complicated with rheumatic affection.

Strengthening plaſters and oily embrocations have little good effect: the former may ſerve as a kind of band or ſtay to the joint; and the latter are perhaps rather beneficial from the friction required in their uſe. Bandage with well fitted rollers, laced ſtockings or joint-pieces, dry friction and moderate exertion, are the beſt reſtoratives in the latter ſtage.

CONTUSIONS.

DESCRIPTION. Theſe injuries may be diſtinguiſhed under two different heads; viz. ſimple and complicated. The former is when the veſſels remain entire, but, from a loſs of tone, do not contribute the neceſſary action towards aſſiſting the circulation of the fluids through the bruiſed part: or when the ſmaller veſſels are ruptured, and the effuſed fluid becomes ſtagnant within the cellular membrane, producing diſcolouration, or what is called *Ecchymoſis*. The latter is when a conſiderable blood-veſſel is much injured or ruptured, or ſome principal nerve, tendon, muſcle, membrane, or gland, is vehemently hurt, with or without an external wound.

Bruiſes,

Bruiſes, at firſt, are generally accompanied with a numb aching, afterwards a ſhooting throbbing pain, and a ſenſe of pain in and about the part affected; and the ſtagnated fluid changes the natural colour of the ſkin to a variegated appearance, of red, brown, leaden, black, yellow, and green.

When a conſiderable artery is materially injured, it is not unlikely to give riſe to an aneuriſm; if a large vein or lymphatic, to varix or œdema; if a principal nerve or tendon be much hurt, palſy, waſting or lameneſs in the limb; when the muſcles are deeply affected, abſceſs and gangrene, or in vitiated habits, ſordid ulcers; if the capſular ligament, the perioſteum or bone, anchyloſis or caries; and if much injury be done to a glandular part, ſcirrhus and cancer may enſue. Internal contuſion, when violent and extenſive, is often ſucceeded by diſeaſe and death. When a bruiſe is attended with a wound, the ſeparation of the parts generally extends to ſome diſtance around, and it comes under the denomination of a *Complicated Wound*. Contuſions then are of more or leſs moment, according to the degree of force or reſiſtance with which they were received, the ſituation or importance of the part injured, and the nature of the habit.

Causes. Contuſions are occaſioned by the action or reſiſtance of ſome hard obtuſe body.

Cure. The internal treatment neceſſary in ſuch injuries are, during the inflammatory ſtage, bleeding agreeable to the quantity of injury, nature of the part, and conſtitution: cooling laxatives, particularly by injections, if the hurt be in the belly; nitrous and other neutral attenuating medicines, Dover's powder, opiates, or the diaphoretic remedy with tinct. of opium, and antimonial or ipecacuanha wine, as directed under the article, *Injuries of the Head*.

Externally, thick compreſſes wetted with the beſt white wine vinegar warmed, or a ſolution of

ſal

ſal ammoniac in oxycrate; alſo, wrung out of old verjuice, or moiſtened with the ſaturnine water ſlightly warmed or otherwiſe. If the ecchymoſis ſhould not be ſufficiently attenuated by theſe means to be abſorbed or diſperſed, the coagulated fluid will moſt probably require to be evacuated; which may be done by a ſlight inciſion at or near the moſt depending edge of the bruiſed and diſtended part.

Languid and watery habits require more powerful diſcutients; ſuch as, the addition of a third part or more of camphorated ſpirit, the ſaponaceous liniment, arquebuſade, the ſtrong beer poultice, &c. Should inflammation, ſuppuration, gangrene, ſcirrhus, or any other incident occur, further information with reſpect to its treatment may be ſeen under each ſeparate head.

In ſlighter caſes, where the chief intention is to reſtrain effuſion, or ſtrengthen the tone of the parts, cold reſtringent applications, occaſionally mixed with ſpirituous or ſaponaceous medicines, anſwer beſt at the firſt ſtage; at other times, a ſolution of volatile ſalts in vegetable acids is to be preferred.

Conſiderable relief and increaſe of motion has been obtained in a contuſed ſhoulder of very long ſtanding, in a ſcrophulous habit, from repeated applications of bliſters, and afterwards receiving the Bath waters upon the part immediately from the pump. In this inſtance the muſcles and ligaments had contracted great rigidity and ſtiffneſs, and the head of the bone had both the feel and appearance of being much enlarged, ſcarcely admitting the leaſt motion without ſevere pain. In ſuch caſes local blood-letting with leeches has been of ſervice.

In violent bruiſes the ſtructure of the veſſels is ſometimes wholly deſtroyed; a loſs of ſubſtance naturally follows, and produces an ulcerous ſore. If the bone be at the ſame time much injured, the whole of the diſeaſed part muſt ſeparate, or be ſeparated,

parated, before the ſore can be healed. Vide, *Spina Ventoſa.*

DISLOCATIONS *in* GENERAL.

DESCRIPTION. A diſlocation or luxation, is when the head of the bone is removed from its articulation. Luxations may be divided into claſſes, *Simple* and *Compound*; the latter when complicated with fracture, wound, &c.

To be perfectly acquainted with the nature of a diſlocation, and its cure, it is neceſſary to have a clear idea of the natural ſtate of the joint, as well as the attachment and uſes of the ſurrounding ligaments and the muſcles.

A luxation is to be aſcertained, by the want of regular motion in the joint, by diſtortion of the part, by increaſe or diminution in the length of the injured limb, by hollowneſs over the joint, and the projection of the head of the bone in an oppoſite direction.

Luxations from an internal cauſe may be known by the limb being moveable in any direction; from the hollowneſs in the joint and oppoſite projection; from the increaſed length of the diſlocated limb; and from the part being free from inflammation, or leſs painful than that from external cauſe.

In this kind of accident, as in fractures, violent force is not ſo neceſſary towards reduction, as peculiar ſkill and management. The muſcles and tendinous expanſions, which are ſtretched in conſequence of the bone being diſplaced, ſhould be brought into as relaxed a ſtate as poſſible; to which end, it will be neceſſary to place the joint below in the bent poſition.

When luxations are difficult of reduction, it is generally ſuppoſed that the capſular ligament is ruptured: this may ſometimes be the caſe, but it

ought not to be a hindrance to repeated and varied attempts towards their reduction. Great obſtruction ſometimes ariſes, from fixing one point of extenſion below the lower extremity of the diſlocated bone. The extenſion ought always to be gradual; by which means, the degree of force neceſſary to bring the head of the bone on a proper level with the ſocket may be effected, without doing the injury to the parts concerned, which ſudden and violent force has been known to produce.

The chief maxims then to be obſerved in the reduction of luxated joints are, ſtedfaſtly to fix the reſiſting point, to put the muſcles and tendons in connection with the bone into a relaxed ſtate, and to make the neceſſary extenſion gradually on that bone only.

The received opinion of the ſynovia concreting and choaking up the ſocket, ſo as to produce a ſtiff joint, is entirely groundleſs: the cauſe of ſuch immobility are, fracture, eroſion, or caries, in the head of the bone or the ſocket, the lacerated parts growing firmly together, or a confirmed ſtiffneſs in the ligamentous and tendinous expanſions.

Causes. The cauſes of luxations are either external or internal; the former ariſing from falls, blows, jumping, &c. the latter from weakneſs and relaxation of the ligament, or a congeſtion of humours in the cavity of the joint.

Cure. In diſlocations, as well as fractures, the bone is to be replaced by regular extenſion, and neceſſary preſſure. A ſufficient degree of extenſion muſt be made, to bring the head of the bone on a line with the edge of the ſocket; which done, the muſcles themſelves will feel their power, and ſeldom fail to reſtore it to its proper place: but this may be more readily brought about with the towel fixed round the neck of the ſurgeon, in ſome caſes, or by compreſſing the part with the hand, in others.

Luxations ſhould be reduced as ſoon as poſſible,

unleſs the tenſion and inflammation be too great to admit the trial, when it may be neceſſary to defer the reduction, till the impeding ſymptoms be removed: this is to be brought about by timely evacuations, ſaturnine ſolutions or poultices, &c. &c. and an eaſy poſition of the limb. The application of bandage after reduction is principally neceſſary, in diſlocations ariſing from or produced by relaxation in the ligamentous parts; and will ſometimes be of little uſe, unleſs aſſiſted by cold bathing, pumping upon the part, friction, ſpirituous and ſaponaceous embrocations, &c.

Diſlocations complicated with a wound, hæmorrhage, laceration, abſceſs, &c. are of dangerous tendency, and require ſimilar treatment with fractures accompanied with the like circumſtances.

Luxations of the humerus after various and violent attempts, have been reduced by the moſt ſimple means. A woman who lived near Colcheſter was famous for reducing the luxated ſhoulder-bone; her method was, to bend the lower arm and take firm hold of the elbow, then repeatedly to make a rotatory movement of the arm, and after having raiſed the elbow above the ſhoulder, to place the left hand doubled under the arm-pit, and carry the arm ſuddenly down to the patient's ſide.

A luxated humerus of ſome weeks ſtanding, is known to have been reduced by means of Hunter's pullies and the towel; the patient having been previouſly relaxed by evacuations, low diet, warm bathing, and repeated application of the vapour bath and oleoſe embrocations to the joint. In ſuch caſes, bliſters repeatedly applied over the joint will greatly aſſiſt towards recovering the tone of the parts.

DISLOCATIONS *in* PARTICULAR.

Luxated Jaw. The lower jaw is ſubject to luxa-

tion forward, and on one or both ſides; if diſplaced on one ſide only, the chin is diſtorted on the other, and the mouth is wideſt on the oppoſite ſide: if on both ſides, the mouth gapes wide, and the lower range of teeth projects, the chin inclines towards the breaſt, and is thrown ſtrait forward, and the temporal muſcles are rigid. The reduction is not difficult, if attempted ſoon after the accident; but when both ſides ſuffer, bad ſymptoms enſue, unleſs the reduction be quickly performed.

In both caſes, the patient is to be placed on a low ſeat, and held firm by an aſſiſtant, the ſurgeon is then to thruſt his two thumbs, wrapped round with the corner of a handkerchief or cloth, as far back as poſſible into the patient's mouth, placing his fingers on the outſide of the jaws: he is then to preſs the hinder part of the jaw forcibly downward and backward, at the ſame time endeavouring to raiſe the fore part with his fingers. If one head only be luxated, it ſhould be puſhed towards the injured ſide. Care muſt be taken to guard the thumbs well, and to withdraw them as quickly as poſſible. Should the jaw be more than ordinarily weak after reduction, a ſupporting bandage ſhould be carried from the chin, and faſtened at the upper part of the head.

Luxated Neck. In this caſe, the condyloid proceſſes of the occiput are thrown out of the glenoid cavities of the atlas, or upper vertebra of the neck; which, without immediate aſſiſtance, muſt prove fatal. Perſons killed by this kind of luxation, are ſaid to have broken their necks. It is eaſily known, by the ſudden deprivation of ſenſe and motion, by the diſtortion of the head, and by the chin being forced down cloſe upon the breaſt. The beſt mode of reduction is, to place the knees upon the patient's ſhoulders, cloſely retaining the neck between them; then quickly ſeizing the head with both hands, to make a powerful extenſion of the neck,

moving the head gently from ſide to ſide. Luxations of the other vertebræ of the neck are to be treated in like manner.

Luxated Spinal Vertebræ. The Vertebræ of the back cannot be completely diſplaced without breaking the proceſſes. Luxations of this kind are known by the diſtortion of the ſpine, a paralyſis below the luxated joint, and an involuntary diſcharge of urine and fæces; without relief the lower extremities grow dead by degrees, and the death of the patient generally follows. The violence of the ſymptoms is in proportion to the hurt received in the ſpinal marrow. The moſt likely means of reduction are, inclining the patient over a caſk, or ſome other cylindrical body, then preſſing down the luxated vertebra, at the ſame time puſhing the ſuperior part of the body upwards.

If the vertebra protrude on one ſide, the patient ſhould be inclined towards the other; one aſſiſtant depreſſing the hip, and another the oppoſite ſhoulder. After the part is reduced, bleeding and gentle diaphoretics are proper, ſuch as Dover's powder, or the antimonial tincture and laudanum, as in injuries of the head; compreſſes wetted with ſaturnine ſolution, Mindererus's ſpirit, camphorated ſpirit, &c. may be applied to the part, and retained thereon with the ſcapulary and napkin; and the body is to be laid in the moſt convenient poſture.

Luxated Os Coccygis. This bone is ſometimes forced inwards by a violent fall or blow, and in difficult labours is liable to be puſhed outward; in either of which caſes the ſtrait gut and lower parts of the ſpine are ſubject to great pain, inflammation, and abſceſs: a conſtipation requiring manual aſſiſtance alſo follows. This accident is to be treated like the fracture.

Luxated Clavicle. This ſeldom happens. It may be diſlocated either from the ſternum or the proceſſus acromion; and is to be reduced by drawing the ſhoulders

ſhoulders back, and neceſſary preſſure: the part ſhould then be properly confined to its place by compreſs and bandage; obſerving particularly, to ſuſtain the weight of the arm by a ſling.

Parey and others have remarked, that the collar-bone when luxated near the proceſſus acromion, has been miſtaken for a diſlocated ſhoulder; but each may be readily diſtinguiſhed by obſerving that in the latter, the ſuperior part of the ſcapula is prominent, whereas in the former, a hollow is to be ſeen over the place where the collar-bone is ſeparated. The diſtinction may be further noted by not finding the head of the ſhoulder-bone in or near the axilla; alſo, by perceiving the natural rotundity of the head of the bone upon raiſing the whole arm, and by being able to place the arm cloſe to the patient's ſide; all which particulars do not occur when the ſhoulder-bone is diſplaced.

Luxated Humerus. The ſhoulder-bone is of all others the moſt ſubject to diſlocation. It may be diſplaced forward, backward, and downward; never upward, unleſs the acromion and coracoid proceſſes of the ſhoulder-blade ſhould chance to be fractured.

When luxated downward, a cavity appears on the fore-part of the ſhoulder, the head of the bone is to be felt in or near the arm-pit, and the arm cannot be preſſed cloſe to the ſide; the acromion appears to project further than uſual, and the luxated arm is longer than the other, and cannot be raiſed without great pain.

When luxated forward, the ſame cavity and projection appear in front, and the head of the bone forms a protuberance towards the breaſt, under the pectoral muſcle. In the ſecond and third caſe, the arm cannot be moved without extreme pain, and the nerves and blood-veſſels are liable to great injury.

The principal means to be employed in the re-

duction of this, as well as moſt other luxations, are, to elude the reſiſting force of the muſcles, as much as poſſible, to uſe a gradual and equable extenſion; and not to attempt raiſing the head of the bone, till it is brought nearly even with the ſocket. Theſe general rules duly attended to, cannot fail of ſucceſs, except in inveterate caſes.

The moſt ſafe and ready method is that with the large napkin and towel. The patient being ſeated on the floor, or on a low ſtool, with his two feet *held up*, let the middle of a long towel be fixed againſt the upper part of the cheſt; one end of which is to be paſſed through a ſtaple, and tied faſt to the other, or by any means held faſt, ſo as to ſecure the body from giving way to the extenſion. The extenſion is then to be made at a fixed point above the elbow joint, which ſhould be kept bent in order to relax the biceps and brachiæus muſcles. The broad part of a napkin of proper length, being previouſly applied under the patient's arm-pit, and the two ends tied behind the neck of the operator, as ſoon as he finds that the extending power has brought it even with the verge of the cup, he is to endeavour with the help of this ſling to raiſe the head of the bone, and, at the ſame time, to bear the arm gently downwards like a lever. During the extenſion, an aſſiſtant ought to preſs againſt and keep back the neck of the ſcapula; for want of doing which, and raiſing the feet from the floor, many a ſurgeon has been foiled in the attempt.

In recent caſes, and weak relaxed habits, ſufficient extenſion may be made by the foregoing proceſs being regularly and attentively purſued; but in ſtrong muſcular ſubjects, the reſiſtance is ſeldom overcome without the aid of greater mechanical powers. Various are the means and contrivances which have been invented for this purpoſe: the ladder, gate, and pole, have been long juſtly diſcarded; the ball and heel is ſtill in practice; the ambie is

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not in ſo great requeſt as formerly; Mr. Freke's Commander is a good improvement of that inſtrument, and when fixed parallel to the ſide of the patient, has anſwered well in difficult caſes. This and Mr. Hunter's pullies have been preferred, but the inſtrument invented by the late ingenious Dr. Robt. Hamilton, of Lynn, combines every particular advantage of the reſt, at the ſame time that it ſerves to keep back the ſcapula. Yet after all, when the ſtrongeſt powers have been exerted without effect, a ſlight turn of the muſcles, or repeated rotatory motion with the arm raiſed, and a ſudden depreſſion, have proved ſucceſsful.

If the ſhoulder-bone be luxated ſo that the head lies under the pectoral muſcle, the arm ſhould be brought forward, to relax the muſcle, and the head of the bone muſt be preſſed towards the arm-pit; the like principle of relaxation and preſſure ſhould alſo be attempted, when the bone is forced backward, towards the ſhoulder-blade.

Luxations of three months ſtanding have been reduced, by fixing one end of the pullies to a beam of ſufficient height, and the other to ligatures faſtened round the wriſt, and raiſing the patient by the mechanical powers gradually from the ground; two perſons at the ſame time ſupporting the arm above the elbow, to leſſen the weight ſuſtained by the wriſt. Mr. White, of Mancheſter, mentions two obſtinate caſes, wherein this prevailed ſo far, as to carry the head of the humerus into the axilla; whence it was eaſily reſtored to its proper place, with the heel. The want of a pully has been ſupplied by a perſon taller than the patient, raiſing the arm over his ſhoulder, and lifting the patient by it from the ground, alſo by hoiſting him up by the arm at the upper part of a door; an expedient not quite ſo regular. A compreſs and bandage are commonly applied after reduction; but little more is then neceſſary to be done than keeping the arm

close to the side, and supporting it with a sling passed round the neck; unless the ligaments are so much relaxed as to require confinement. Except in such cases, it will be proper, after the tension is off, to give the joint a gentle degree of motion now and then, otherwise the ligaments are apt to get stiff and thicken; to remedy which, the vapour bath, embrocation with neat's feet oil, &c. and after all, repeated blisters, have been applied with success.

Luxated Elbow. The ulna or cubitus being situated inferiorly, performs the whole flexion and extension of the arm, the radius moving with it. The latter bone is principally in motion in the pronation and supination of the hand. The ulna is so articulated with the lower head of the humerus, and fastened down with such strong ligaments, that it seldom suffers a perfect luxation, except when the processus olecranon is fractured, or the ligaments are torn or weakened.

The Elbow Joint may be luxated, forward, backward, outward, and inward. When the ulna is thrown backward, which is the most frequent luxation of this part, the arm is bent and shortened, and violent pains arise from the distracted tendons and ligaments, the head of the humerus is protuberant in the bend of the arm, the olecranon protrudes behind, and a cavity is to be perceived between the bones. This luxation is to be reduced by steadily drawing the arm forward, bending the elbow, and bearing back the humerus.

If the luxation be forward, which can hardly happen unless the olecranon is fractured, the protuberance is external, and the hollow internal. Due extension is here necessary; and if the olecranon be broken, it must be treated according to the method recommended for the fractured ulna.

The inward and outward luxation are to be assisted after the method directed in the first case.

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Great pain and inflammation generally attend accidents of this kind; it will therefore be right to guard againſt thoſe ſymptoms in the manner heretofore directed.

Luxated Wriſt. This part is ſubject to diſlocation four different ways; more eaſily forward and backward than laterally: ſometimes it is complicated with the diſtortion of one or more of the ſmall bones. The wriſt is to be reduced by a regular extenſion and preſſure. The compreſſion may be better effected, by placing the hand on a flat board or table.

Luxated Metacarpal Bones and Fingers. Theſe bones are eaſily to be reduced by regular extenſion and preſſure, and generally require bandage.

Luxated Femur. The head of the thigh-bone is uſually diſplaced downward and forward; in which caſe the luxated limb is longer than the other, the knee and foot turning outward; the head of the bone lies in the lower part of the groin, towards the large foramen of the os pubis, and a cavity is perceivable in the buttock.

It is more ſeldom luxated upward and outward; when the hollowneſs is found in the groin, and the projection upon the buttock; the limb being ſhorter, and the foot turning inward.

It is to be obſerved, that the fractured neck of the thigh-bone may be diſtinguiſhed from the luxation, by the acute pain attending the former, by the extenſive power in moving the limb, and by the grating of the bones during that motion. The diſtinction ought to be poſitively aſcertained before any attempt is made towards reduction; the extenſion required to replace the fracture, being little more than the ſubſiding tenſion will admit of: whereas the luxation demands powerful and immediate efforts.

This luxation is to be reduced by placing the patient either on his ſide or back; then paſſing a long towel or two tied together, under the thigh and

and over the groin, and faſtening the ſame to the head of the bed, or a ſtaple fixed in a line with the body; then fixing a cloth or two of the ſame kind to the thigh, two or more powerful aſſiſtants are required to make equal extenſion, obſerving to keep the knee bent. When the extenſion is ſufficiently made, the ſurgeon is to carry the knee towards the belly of the patient, and preſs the head of the bone with the hand or ſling, towards the ſocket. The pully, with a proper fixed point, is the moſt regular extenſor on all ſuch occaſions. A compreſs and convenient bandage are generally applied after reduction.

The curved poſition of both leg and thigh is looked upon by ſome practitioners as moſt favouring reduction, upon the plan of relaxing the muſcles: an attempt of that kind ſhould be made prior to more powerful means, which has ſometimes had the deſired effect.

Luxated Patella. The knee-pan is moſtly diſplaced on the outſide and inſide of the joint: but ſeldom ſuffers a perfect luxation, except when the knee goes with it. It is ſeldom thrown upward, unleſs from a rupture or relaxation of the connecting ligament. It is to be reduced by extending the leg, and uſing ſome force to preſs the bone into its proper place. Reſt and convenient bandage will be neceſſary for a time; yet the knee ſhould be now and then gently bent.

Luxated Knee. The tibia may be forced from under the head of the thigh-bone laterally or backward; ſcarcely ever forward, from the reſiſtance of the patella and ligaments. It is not difficult to diſcover a luxation of this joint, on account of its thin covering; but the bones are ſeldom ſo well replaced as to prevent ſtiffneſs, which more commonly happens from the injury done to the tendinous and ligamentous expanſions; it will therefore be proper to give frequent motion to the joint, during the cure.

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The bones are to be replaced by regular extenſion above and below the knee, gently bending it, and endeavouring to raiſe the head of the tibia with the hands or ſling.

Sometimes the fibula is ſeparated from the tibia, and driven upward or downward; this moſtly happens when the foot has been diſlocated outward; and it is to be replaced by gentle extenſion, and by preſſing it into its proper ſtation. Bandage is neceſſary.

Luxated Ankle. The foot is ſubject to diſlocation, outward, inward, forward, and backward. When diſplaced inwardly, the bottom of the foot is turned outward; when outwardly, the contrary happens. If the luxation be forward, the heel is ſhortened, and the foot is lengthened: the foot always inclining in oppoſite direction to the diſlocated part.

The ankle is ſeldom luxated externally, without breaking the lower part of the fibula, or ſeparating it from the tibia: in which caſe, provided the accident be attended with much inflammation, it will be both difficult and dangerous to attempt reduction until thoſe ſymptoms are abated, otherwiſe the earlier it is done the better.

When the luxation is thus complicated, the leg ſhould be held and extended, by an aſſiſtant above, and a ſkilful perſon below the joint; who is to bend the foot up, whilſt the ſurgeon is endeavouring to preſs the bones into their proper place. In a caſe of this kind, it will be impoſſible to keep the bones in their right ſtation, without applying ſplints in an oppoſite direction. The eighteen-tailed bandage ought to be uſed from the firſt, for the convenience of repeating the neceſſary applications without diſturbing the limb. This kind of luxation is frequently accompanied with violent ſymptoms.

Luxated Bones of the Foot and Toes. In all ſuch caſes, the ſame method is to be purſued as is directed for reduction and cure of luxation in the ſuperior

perior extremities. Reſt in bed, or on a couch, is here particularly neceſſary. The *heel-bone* may be luxated both inward and outward: it is generally attended with ſevere pain, and may be known from the two oppoſites, viz. tumour and cavity. It is to be replaced by means of extenſion and preſſure.

FRACTURES *in* GENERAL.

DESCRIPTION. Fractures are commonly divided into two denominations; *the Simple*, when the bone alone is injured, and the *Compound*, when attended with a wound. Subordinate diſtinctions are alſo made, by the terms, *Tranſverſe*, *Oblique*, &c.

The Simple Fracture is known by the irregular ſhape of that part of the limb where the bone is injured, want of power to move it, conſiderable pain on motion, a jarring noiſe or feel upon preſſing or moving the limb, which is generally ſhorter than its fellow. Sometimes a ſpace is to be felt between the broken ends of the bone; at other times, a prominence, denoting that one end rides the other, and that the ſeparation is irregular or oblique. The indications are ſufficiently evident ſoon after the accident; but if the limb be much ſwelled or inflamed, and the patient be timid and fretful, it will not be ſo eaſy to aſcertain the exact ſtate of the injury till thoſe ſymptoms are abated.

The Compound Fracture is evident to both ſight and touch. Such fractures, when accompanied with diſlocation, great contuſion, hæmorrhage, or caries, are very difficult of cure, and more ſo if they happen near the heads of the bones, and the ligaments, tendons, or joints, ſuffer much. If in conſequence of the fracture, violent pain and convulſions come on, ſome principal nerve is probably injured; if much compreſſed, loſs of ſenſe and motion, together with waſting of the limb, are likely to enſue. If the larger veſſels ſuffer preſſure or great injury, gangrene is the likely conſequence. Hæ-

morrhage

morrhage is to be attended to, previous to any other concern. When the ends of a fractured bone are forced through the muſcles and common integuments, and the wound cloſely encircles the bone, an enlargement is immediately neceſſary; and ſometimes it has been thought proper to ſaw the projecting end off, particularly when the fracture is oblique, or the end is much ſhattered. Should the fracture happen on a part that is carious, the union will be much retarded; but ſhould it proceed from caries, relief is more to be wiſhed for than expected, except from amputation.

The late improvements with regard to the management and cure of *Simple Fractures*, have almoſt entirely ſubverted the mode of treatment handed down by former practitioners. Violent extenſion, tight bandage, and plaſters are nearly given up; and in their ſtead, the firſt principles obſerved are, putting the muſcles into a relaxed ſtate, keeping the joint bent, and laying the limb in the moſt eaſy poſture upon a ſoft pillow. Notwithſtanding the evident proofs of utility and comfort which both patient and ſurgeon have daily experienced from following ſuch means in particular ſtages and ſtates of fractures, is it not extraordinary, that men of the higheſt rank in the profeſſion ſhould ſtill differ ſo much in their practice? When it happens ſo, there is yet one given point to ſteer by, which for the moſt part proves right; namely, to take the middle courſe: for when extremely oppoſite opinions are too warmly ſupported by men of character and credit in the profeſſion, prejudice and error will manifeſtly appear againſt them, not without injury to the diſputants, and a probable diminution of the confidence which is due to the profeſſional line.

Objections may be made to laying the fractured limb invariably and conſtantly in a curved poſition. It is very well known that fractures of the olecranon and patella require the limb to be placed in

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the ſtrait poſition. With oblique fractures, particularly, when the bone rides, after the tenſion and inflammation are removed, the flexed poſition may rather favour the contractile power of the muſcles, and produce an irregular union.

It is advanced, that no greater inconvenience can ariſe from keeping the limb in the curved poſition throughout the cure, than in the extended ſtate; yet, in two ſimple fractures of the thigh-bone, it is well known that the foot and knee ever after turned too much outwards, from being conſtantly laid on the ſide with the knee bent; notwithſtanding which, the union of the bone appeared to be uniform and regular.

No great defect can ariſe from reducing the bone by keeping the whole limb in a ſtrait poſture, provided there be little or no tenſion upon the part; but if the injury has been produced by a heavy weight falling upon, or paſſing over the limb, or by a violent blow from ſome hard body, although no wound ſhould appear, much muſcular inflammation and tenſion will enſue. Under ſuch circumſtances, the precaution of placing the limb in the moſt eaſy and relaxed poſture is abſolutely neceſſary, until thoſe ſymptoms are removed. The following practice is therefore recommended, after many years experience. To place the limb in the ſtrait, or bent poſition, according to the apparent neceſſity of the occaſion, in proportion to the tenſion, preſent, or rationally to be expected, from the violence of the injury, and nature of the conſtitution; and when the inflammatory ſymptoms are abated, gradually to change it from the curved to the extended poſture, ſo as not to excite pain ſufficient to produce contraction of the muſcles: this method, properly purſued, with fractures that cannot be perfectly reduced at firſt, will obviate the objections made to the extreme of either practice.

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When one end of the fractured bone lies below the level of the other end, the upper part was generally ſuppoſed to be the riſing end: this the great improver of the art, the late Mr. Pott, has thrown into a different light; ſhewing that the ſuperior end retains its place, and that it is the weight of the inferior part of the limb, together with the action of the muſcles, that bear down the lower end of the bone; alſo, that this evil is ſolely to be remedied by raiſing the inferior extremity. But, with ſubmiſſion to ſo great authority, it may be aſked, whether the muſcles attached to the ſuperior part of the bone, do not contribute in ſome degree to deſtroy the level, and render it proper gently to compreſs the upper, as well as the lower extremity of the fractured bone.

Bandage and ſplints have undergone neceſſary improvement; the eighteen-tailed bandage is evidently preferable to the circular roller, in Simple, as well as Compound Fractures; ſince every part of the buſineſs can be tranſacted without diſturbing the limb; ſtill, when the callus begins to form, it will be better to uſe the circular bandage.

Short ſplints do not ſteady the whole limb; they act merely as partial compreſſes, and thoſe of the moſt uneaſy kind; whereas thoſe that reach from joint to joint, have full power over, and conſequently guard, every part of the limb. Thoſe invented by Mr. Sharp, of Bartholomew's, and Mr. Martin, of Thomas's Hoſpitals, have every poſſible advantage in fractured legs.

The faculty are much obliged to the mechanical genius of Mr. James Stanton, a miller, at Weybread in Suffolk, for his invention of a machine for the lodgment of a fractured leg; which admits of movement in every direction, to the greater eaſe of the patient, and ſecurity of the limb.

The principal applications are cloths dipped in oxycrate, ſaturnine ſolutions, ſolution of crude ammoniac,

moniac, in vinegar, and the like; keeping the limb conſtantly moiſt with one or other, during the inflammation and tenſion; at the ſame time, bleeding and other evacuations ſhould be repeated, according to the nature of the habit: in which ſtate, ſhort ſplints and bandage muſt be hurtful. Splints of a proper length and ſhape may ſerve to keep the limb ſteady; but the pillow is moſt agreeable at ſuch a period, both as a ſupport and lodgment. Refrigerants have not always ſo good an effect as warm, diſcutients, in leucophlegmatic habits; ſuch as Mindererus's ſpirit, mixed with about a fourth part brandy, or camphorated ſpirit. Plaſters, cerates, and the like, are adheſive and daubing, without any particular uſe.

In *Compound Fractures*, that is to ſay, thoſe that are accompanied with a wound, the firſt point to be conſidered is, the probability of ſaving the limb. When the fracture happens to be near a joint, and the bone is greatly cruſhed, the ligament is torn, the joint is expoſed, or the blood-veſſels are ſo much injured, that there is no probability of the circulation being reſtored, amputation ſhould be immediately performed.

If the buſineſs of amputation has been deferred till the limb is generally inflamed and tumefied, there will be little proſpect of ſucceſs attending it, till thoſe ſymptoms are removed; and if gangrene be ſeen to approach, the operation muſt be poſtponed till a line of ſeparation appears in young perſons, and the dead part be perfectly ſeparated in thoſe more advanced in life. In the mean time, it will be proper to ſupport the patient with cordial nutriment, and a liberal portion of the bark. Should he be able to recover from this ſtage, future operations are to be governed by exiſting circumſtances.

There are three different ſtages in fractures of this kind, which are particularly ordered to be attended to, viz. Inflammation, Suppuration, and Gangrene.

Theſe

Theſe have been ſeparately treated of; it may not be amiſs, however, to particulariſe the treatment to be obſerved, when they are the conſequents of fractures.

Should the bone protrude, or be girted in the wound, it cannot well be reduced without further opening; and it is ſometimes thought neceſſary, particularly when the end is pointed, to ſaw it off. If the bone be cruſhed, ſuch pieces as are detached are ordered alſo to be removed, without violence or laceration. A gentle extenſion is neceſſary towards the reduction of this fracture; and the limb muſt be placed in as eaſy and relaxed a ſtate as the nature of the caſe will admit.

The curative intentions regularly preſcribed are, to prevent or remove inflammation, by evacuants and cooling medicines; to moderate the ſuppurative proceſs, which in ſome caſes proves inevitable, by diſcutients; and in ſome weak habits, to promote it, if found neceſſary, by means of emollient poultices and a nutritious diet; and to obviate gangrene, or bring forward a ſeparation, by warm antiſeptic poultices, and bark in as large doſes and quantity as the ſtomach can be made able to bear. Vide *Inflammation, &c. Wounds*, and *Ulcers*.——Soft lint is recommended as the beſt dreſſing to the wound, whilſt the diſcharge is copious, covered with a thick pledgit of fine tow thinly ſpread with white cerate, and the eighteen-tailed bandage; alſo ſuch ſplints as will reach from joint to joint, if to be borne without pain, otherwiſe the pillow only.

But, without all this regular method of proceeding, ſeveral inſtances, and of the worſt kind, can be produced, that have done well in a much ſhorter time than uſual, by the ſimple applications of thick pledgits of lint repeatedly wetted with the traumatic balſam, and a large thin compreſs kept conſtantly moiſt with Goulard's vegeto-mineral water, taking care to expoſe the wound as little as poſſible to the

air, and mollifying the balſam with a little honey of roſes, where irritability requires it: a pledgit of ſoft tow, and a light compreſs nipped out of oxycrate, with or without the tailed bandage, after the abatement of the inflammation and tenſion; a long ſplint or two, to ſteady the limb againſt ſpaſms, which frequently occur during ſleep; and a pillow or two; keeping the limb for ſome time in the curved poſition.

It is moſt probable, that the wounds in fractures being treated after the preceding method, and remaining as it were ſealed up and unexpoſed, till the eighth, tenth, and twelfth day after the accident, is a principal cauſe of the cure being completed in ſo much ſhorter time than uſual. The pleaſant aſpect of the ſores, after being cloſed up for ten days at leaſt, and the happy event which followed this ſimple proceſs, in three inſtances, where the bone had greatly protruded, in one of which a large ſuppuration happened, and much matter was daily preſſed away from under the dreſſings, are convincing proofs that this method deſerves preference. Should the parts be ſo much injured, or the conſtitution be ſo bad, as inevitably to occaſion gangrene, poultices muſt be repeatedly applied; at the ſame time, expoſure to the air ſhould be avoided as much as poſſible.

Further authorities reſpecting this mode of practice may be found in *Mr. Mudge's* ingenious account of the *Vis Vitæ*, wherein this ſummary practice is proved to have been ſucceſsful, even in the moſt complicated caſes: alſo in *Mr. Wilmer's* book of *Caſes*, or *Mr. Clare's Eſſay* on the *Cure* of *Abſceſſes*, in which is to be found Dr. Hunter's account of the maniacal patient, whoſe leg was deſperately fractured, yet did well in a much ſhorter time than uſual, with nothing more than a bundle of feathers ſticking to it.

Events

Events in general have given but little encouragement towards the attempt to ſave limbs deſperately fractured, in the London Hoſpitals; whereas in the country, the buſineſs ſeldom fails of ſucceſs, unleſs in caſes of the worſt kind, conjoined with a bad conſtitution. The want of a free circulation of air is the probable cauſe of this difference, together with a mixture of depraved animal heat, particularly in the night time. Such are the obſtacles which render ſucceſs extremely doubtful in hoſpitals, notwithſtanding the endeavour is ſupported with the beſt of ſkill and care.

FRACTURES IN PARTICULAR.

It cannot be thought improper, in this place, to give a ſhort deſcription of each fracture, and its treatment; at the ſame time, it ſhould be underſtood, that bleeding, evacuants, diaphoretics, refrigerants, opiates, &c. are to be occaſionally adminiſtered, and the general dreſſings applied; alſo that regimen and diet muſt be properly attended to, according to the nature of the injury received, and the patient's habit.

Fractured Scull. Vide *Wounds* and *Injuries* of the *Head.*

Fractured Noſe. If the injury be violent, it will be difficult to effect a cure without deformity; and there is ſometimes conſiderable danger from the nearneſs of the brain; a caries is alſo ſometimes the conſequence. When the noſe inclines to one ſide, the cartilage is probably diſplaced. The depreſſed parts may be raiſed with the aſſiſtance of a director, quill, or ſome ſuch convenient inſtrument, and replaced with the finger and thumb; after which, the part may be ſupported by a tent made of lint and a retentive plaſter. If it be accompanied with a wound, and inflammation comes on, canulas and

tents may be injurious; it will then be proper to dreſs with the balſam and the ſaturnine water.

Fractured Jaw. Fractured Jaws are to be known by the ſight, the touch, and the irregular poſition of the teeth. The divided parts are reducible by oppoſite preſſure, with the fore-finger of one hand in the mouth, and the fingers of the other applied externally. The neceſſary applications are ſaturnine preparations, and a double-headed narrow roller to ſuſpend and paſs over the jaw: looſe teeth are to be fixed by means of gold or ſilver wire, or fine ſilk waxed. Paſteboard ſplints, conveniently ſhaped, and lined with ſoft linen cloth, are alſo recommended.

If complicated with a wound, no further bandage ſhould be uſed, during inflammation, than is neceſſary to ſuſpend the part and keep on the dreſſings; and the mouth ſhould be frequently ſyringed with a lotion made of barley water and honey of roſes; otherwiſe the ſaliva will become acrid and fœtid. Bleeding and other evacuations are proper and neceſſary in injuries of this kind, as they are commonly followed by ſwelling and inflammation; and broth, gruel, ſagoe, and milk-gruel, are the aliment moſt proper in ſuch complaints, particularly the latter.

Fractured Clavicle. The Collar-bone, from its weakneſs and tranſverſe poſition, is very liable to be broken; it is eaſily diſcovered by the eye and touch, and by the dropping of the humerus, and its inclination to the breaſt. When it is fractured obliquely, it is a difficult taſk to keep the bones from riding one over the other. The principal means towards reducing it, and retaining it in its proper ſtate, are, raiſing the elbow, ſupporting the whole arm, and keeping the ſhoulder back; which may be readily effected, by ſuſpending the arm in a ſling or handkerchief tied round the neck, and as it were pinioning the patient. The method for reduction generally directed is, for an aſſiſtant to draw back the ſhoulders againſt his knee, or a narrow-backed

chair, whilſt the ſurgeon endeavours by preſſure to replace the broken ends of the bone; but ſuch force is ſeldom neceſſary.

Fractured Sternum. A fracture of this part may be diſtinguiſhed, by preſſing upon the part, and its inequality. The principal danger ariſes from the injury done to the ſubjacent parts. When the bone is much ſhattered, and the pieces are driven in, it will be proper to raiſe or remove them, with the aſſiſtance of the elevator and forceps; and in ſome caſes the trephine may be neceſſary: but to perforate, with the deſign of diſcharging extravaſated blood from between the duplicature of the mediaſtinum, would be at leaſt a vain attempt. The chief intentions in this injury are, to remove the looſe pointed pieces of bone, and to obviate inflammation by every poſſible means.

Fractured Scapula. The Shoulder-blade is very ſeldom fractured; the part moſt ſubject to that accident is the Proceſſus Acromion; it may be diſtinguiſhed from a luxated ſhoulder, by the grating of the bones, and from the patient being able to place the elbow and arm cloſe to the ſide. The chief point to be obſerved toward the cure is, to keep the arm ſufficiently raiſed and ſupported in a ſling. Fractures in the Coracoid proceſs, and the neck of the Scapula, are to be treated in the ſame manner: the latter is attended with much danger to the nerves and blood-veſſels near the part. A compreſs placed in the arm-pit, and the ſpica bandage, are neceſſary aids.

Fractured Rib. This injury is to be known by the crackling feel beneath the fingers, and extreme tenderneſs upon preſſure; alſo, by a puffineſs around the ſpot where the injury is received, and a painful catching of the breath on inſpiration.

The chief buſineſs to be obſerved in this fracture is, to reſtrain the dilatation of the cheſt, by applying a long thin flannel roller, moderately tight, round

that part. Due attention ought alſo to be paid to the ſtate of the bone, and to the concomitant ſymptoms: for if the ends of the bone preſs inward, they will create a pricking pain, inflammation, cough, fever, abſceſs, &c. as in the pleuriſy; during which ſymptoms, the bandage muſt be omitted.

A boundleſs Emphyſema is ſometimes the conſequence of the Lungs being wounded by the ſharp points of the bone; which is to be treated accordingly. Vide *Paracenteſis*.

In a caſe of this kind, M. Le Dran, in Obſ. 29, ſhews the good effect of applying a thick compreſs dipped in a defenſative, made with armenian bole, the white of an egg, and vinegar, over the injured part; and a dry thick compreſs over each end of the fractured bone, properly confined with a napkin; which application was renewed as the napkin grew ſlack. This method, and repeated bleeding, he tells us, nearly reduced the emphyſematous ſwelling, which was conſiderable, in twenty-four hours.

If the fracture be accompanied with a wound and hæmorrhage, from the intercoſtal artery, it will require ſome addreſs to ſecure the veſſel; the curved needle and ligature is moſt handy, which, in caſe of great difficulty, muſt be paſſed round the rib, having firſt placed a compreſs over the ſulcus, at the lower part of it. The tenaculum is a convenient inſtrument on ſuch occaſion, provided the wound be of ſufficient ſize to admit of its uſe.

A ſimple fracture of the rib may be eaſily cured, by making an uniform bandage round the cheſt, with ſufficient tightneſs to prevent its dilatation; but when the pleura or integuments are pierced through by the bone, it is generally attended with ſevere and dangerous ſymptoms.

Fractured Vertebra. This ſeldom happens without great injury to the ſpinal marrow, producing palſy in the parts beneath, ſuppreſſion of urine, &c. If the injury be confined to the poſterior proceſſes, or the

acute tubercles, it may be remedied by replacing them with the fingers, and applying narrow compreſſes, dipped in a defenſative of white of egg, flour, and vinegar, to be ſecured with the napkin and ſcapulary; or, compreſſes dipped in oxycrate, and fixed on each ſide the ſpinal ridge, with paſteboard and a broad flannel bandage. Fractures in theſe bones are to be aſcertained by the pain or numbneſs which follows preſſure, and their looſe ſtate.

If the body of the vertebra be broken, the ſpinal marrow muſt be greatly injured, and death commonly follows. When the tranſverſe proceſſes are broken, the heads of the ribs muſt ſuffer, and the parts are not to be eaſily replaced; much danger attends this caſe. The fragments which preſs upon the ſpinal marrow, if looſe, ſhould be removed as ſoon as poſſible; and the wound muſt be dreſſed with the balſam and honey of roſes, compreſſes dipped in oxycrate, and a ſlight bandage.

Fractured Os Sacrum and Coccyx. In accidents of this kind, the broken parts may be ſometimes tolerably reduced, by paſſing the fore-finger of one hand up the rectum, and making an oppoſite preſſure externally: a compreſs, and the T bandage, are to be uſed; and the patient muſt keep his bed ſome weeks; when he ſits up, it muſt be on a chair open at the bottom.

Fractured Os Innominatum. It is moſt probable that a blow or fall ſufficiently violent to produce this effect, will much injure the ſubjacent parts. To reduce this fracture, the patient muſt be laid on the oppoſite ſide, and the parts are to be retained together by compreſs moiſtened with oxycrate, and convenient bandage.

Fractured Humerus. It is extremely difficult to manage the upper arm when broken near either of its extremities: ſhould the condyle be thrown into the bend of the arm, an anchyloſis will almoſt inevitably follow. In fractures of this bone, extenſion ſhould

be made with the arm in a bent poſition. In the ſimple fracture, the circular bandage is generally preferred; and the muſcles of the lower arm muſt be kept in an eaſy, relaxed ſtate, with the thumb upwards. When the bone is broken ſo near the upper joint as to render it difficult to fix a bandage, a compreſs dipped in the defenſative before mentioned, may be applied round the part; the elbow muſt be ſupported, and the arm muſt be kept cloſe to the ſide.

If complicated with a wound, or the bone be much broken, the ends muſt be adjuſted as well as poſſible, and cloths applied wetted with Aq. Vegeto-min. or the like, together with the twelve-tailed bandage; taking care to keep the muſcles in a relaxed and quiet ſtate, and reſting the arm on pillows. As ſoon as the callus begins to ſtiffen, or the tenſion is ſubſided, it will be abſolutely neceſſary daily to move the arm at the elbow joint, as far as can be done without giving much pain; and now and then to vary its poſition; at leaſt, not to ſuffer it to remain conſtantly bent.

This method was particularly obſerved in the caſe of a young man, who, by a fall from a tree, had the humerus fractured juſt above the elbow joint, and the exterior condyle quite ſeparated and forced into the bend of the arm. The inflammation and tenſion continued more than a month, the biceps tendon was greatly on the ſtretch for ſome time longer, and the pulſations of the artery were uncommonly throbbing. At the end of the eighth week, the tenſion was chiefly down; and whenever an attempt was made to reverſe the ſupine poſture of the arm, to which it had been generally, though ſlightly confined, the condyle could be eaſily perceived to move together with the upper part of the radius. About the tenth week, the condyle began to unite with the humerus, and bore the application of paſteboard ſplints moiſtened with oxycrate, and a circular bandage;

bandage; and, in proceſs of time, the limb was perfectly reſtored to its ſhape, uſe and ſtrength. The cuſtomary means were uſed to abate inflammation, tumour, and general tenſion; which, for nine weeks, allowed of no other bandage or lodgment than the pillow.

Fractured Radius and Ulna. If only one of theſe bones be broken, the other will ſerve for direction and ſupport. When the injury is in the radius, and near the wriſt, it is difficult to retain the bone in its proper place, on account of the fractured part being ſtrongly drawn towards the other bone, by the action of the pronator quadratus muſcle. The pronator teres is alſo an obſtacle, tending to throw the bone inwards, and by that means to prevent regular appoſition.

A fractured ulna is much eaſier to be diſcovered than one of the radius, from its want of power to ſupport the joint: both may be diſcovered, by a grating feel and noiſe, if the elbow be held firm, and the hand be moved outward and inward. In both the reduction and cure of either fractures, it will be proper to place the thumb upwards, to bend the arm, and to uſe ſplints that will reach from joint to joint.

When both bones are fractured, the hand is to be placed perpendicularly, and the extremities are to be brought together by due extenſion and compreſſion. If the proceſſus olecranon be broken, due extenſion will be neceſſary towards its reduction, and the arm ſhould be kept in that poſition, by means of proper ſplints and bandage.

Fractured Wriſt. The bones of the wriſt are ſeldom broken as other bones are, but are liable to be cruſhed and much injured by heavy weights and violent blows. From their ſmallneſs and numbers, and on account of the ligaments and tendons which ſurround or lie contiguous to them, ſuch fractures are difficult of cure. A regular extenſion, and ſufficient preſſure,

preſſure, are required towards replacing them, together with ſuitable bandage. Great inflammation and tenſion generally attend ſuch injuries; the joint of the wriſt too often becomes rigid and ſtiff, and ſometimes abſceſs and caries are not to be prevented.

Fractured Metacarpal Bones. The bones of this part, being longer than the preceding, are much more eaſily to be reduced. The palm of the hand is afterwards to be placed flat over a piece of ſtiff paſteboard, or thin board hollowed at the edge for the fingers to lodge eaſy on; the forward edge of which ſhould not reach further than the ſecond joint. A compreſs of tow or thin cloth ſhould be applied between this broad ſplint and the hand, with proper bandage.

Fractured Finger and Thumb. When a finger is broken, a narrow bandage wound round that part together with the adjoining fingers, will be ſufficient ſecurity. Splints, as well as bandage, will be found neceſſary towards the cure of a fractured thumb. In caſe the finger is much ſhattered, a deal of trouble and torture will be avoided, by taking it off at the joint above the injury.

Fractured Thigh. The thigh-bone, notwithſtanding its ſize and ſtrength, is very ſubject to this accident. When the neck of this bone is broken, it is difficult to manage it, on account of the great power and thickneſs of the muſcles which cover it. It is to be diſtinguiſhed from a luxation, by the acute pain felt in and about the joint when put in motion; the looſe ſtate of the limb, which will nearly admit of the foot being turned round; and by the grating of the bones on moving it. In ſuch a caſe, a gentle and gradual extenſion is neceſſary, and the limb is to be kept in the extended ſtate; the toe being fixed on a line with the knee and groin. A compreſs with convenient bandage ſhould be applied, as ſoon as the

parts

parts begin to ſtiffen; time and reſt muſt complete the cure.

In a fracture of this kind, which happened a few years ſince, the whole limb was placed as near as poſſible to the above direct poſition, on two ſoft pillows; one of which was laid under the hip, and part of the thigh; and the other reached from a little above the ham, rather beyond the foot, with a ſufficient compreſs to fill up the hollows under the ham and heel, and altogether confined with tape at proper diſtances. This fracture, with due caution and reſt, did better than uſual, and in leſs time; and the limb was ſcarcely ſhorter than the other. This patient being of a full habit, was bled twice during the ſymptomatic fever; he ſtrictly attended to the poſition of the limb, and conformed to rule in every reſpect.

When the fracture happens towards the middle or lower end of this bone, after the general means have been uſed, it will be beſt to place the limb upon a pillow on its outermoſt ſide in the curved poſition, in order to moderate the conſequent tenſion; but as ſoon as the ſwelling and tightneſs are ſubſided, the limb ſhould be carefully and gradually brought down, and the toe, knee, and groin ſhould be kept in a direct line with each other: it will alſo be prudent, as ſoon as the callus begins to ſtiffen, now and then to move the knee joint. This maxim ought to be put in practice with other joints, under ſimilar circumſtances.

Cloths, duly and repeatedly moiſtened with refrigerants, an eighteen or twelve tailed bandage, and two ſplints of ſufficient length and breadth, are the neceſſary applications.

For the treatment of Compound Fractures of this part, vide the foregoing article, Of the Humerus.

Fractured Patella. When this bone is fractured tranſverſely, the limb is ordered to be placed in an extended poſture. The reduction of the two ends

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will be more eaſily effected, by relaxing the rectus cruris and other extenſors; or, in other words, by bending the hip-joint. This fracture, after the tenſion is ſubſided, generally does beſt by giving a moderate action to the joint every day; the upper part being apt to recede, from the retractive power of the muſcles, it is highly proper to place a compreſs juſt above the knee-pan, and to paſs a roller above and below the knee. Inſtances are mentioned by the moſt reſpectable writers of the divided parts remaining near an inch diſtant from each other, with no great impediment to the common action of the limb.

If this bone be fractured longitudinally, the inflammatory ſymptoms require the chief attention; reſt, and the cuſtomary applications of compreſſes dipped in Goulard's ſaturnine water, or oxycrate with ſal ammoniac, and ſlight bandage, will be neceſſary.

Fractured Tibia and Fibula. When either of theſe bones are ſeparately broken, which ſeldom happens to the former, the limb may be laid in either poſition, as each bone will ſerve to ſupport the other; one ſplint, with proper bandage, will then be only neceſſary. When both bones are fractured, after due extenſion, it may be right to leave, for a time, the limb in a curved poſition; but as ſoon as the tenſion and inflammation are tolerably ſubſided, it had better be brought, by gentle means, to the extended poſture. But in this caſe, unleſs the fracture be compound, or the tenſion be likely to be great, of which a tolerable judgement may be formed from the nature of the injury, no material objection can be made to placing it in the extended poſition from the very firſt. But ſhould the fracture be oblique, to raiſe and ſupport the heel, and to keep the toe in a direct line with the knee, will evidently tend to prevent the riding of the bone: and here it may not be amiſs to remark, that if the latter circumſtance

be

be not properly attended to at firſt, it may be found a difficult taſk to bring them into regular appoſition.

When the fibula or ſmall bone is fractured not more than two inches from the ankle joint, it is moſtly attended with a diſlocation; to admit of which, the ligament muſt be violently ſtretched, if not torn. When the bone is forced through the integuments, and the reduction is difficult, it is ſometimes neceſſary to enlarge the wound, in order to let in the protruding end; which, if much ſhattered or pointed, is ſometimes removed by the ſaw. Even in the ſimple ſtate, this accident will require great ſkill and management, both to reduce and retain the parts in ſuch order, as will prevent lameneſs and deformity. Broad ſplints and moderate bandage will be neceſſary to guard the whole; and in the early ſtage, every means muſt be uſed to check and ſubdue inflammation.

Fractured Tarſus, Metatarſus, and Toes. Theſe bones are to be reduced and ſecured, much after the manner of the bones of the wriſt and upper extremities. Fractures in theſe parts, accompanied with a laceration, are ſubject to great inflammation and gangrene. A caries is frequently the conſequence of ſuch injuries, particularly in ſcrophulous habits. Theſe fractures are too often ſucceeded by a ſtiffneſs, and want of proper motion in the neighbouring joint.

BLOOD-LETTING.

This is one of the moſt uſeful and nice operations in Surgery. It may be divided into three parts, Venal, Arterial, and Topical: the two former are moſt common. The parts on which venæſection is moſt frequently performed, are the veins in the arms, the jugulars, and thoſe of the ankles, feet, and hands. Arteriotomy is principally confined to the

the temporal artery, and cupping with ſcarification, is either general or topical. Leeches are much uſed for the purpoſe of drawing blood from the ſmaller veins, and are moſtly placed on, or near the part affected.

Bleeding in the Arm. The veins in the bend of the arm are commonly very conſpicuous; yet ſometimes lie ſo deep, and are ſo ſmall, as to require much ſteadineſs and judgement to open; under which circumſtances, in deſpite of cuſtom, it would be much better and ſafer to let blood in the hand, foot, neck, or any other part, where a vein that is ſafely ſituated, and of tolerable ſize, ſhall offer itſelf.

The number of veins which more conſpicuouſly preſent themſelves in the curvature of the arm, are three; the Cephalic, which lies on the upper part; the Baſilic, on the lower part; and the Median, which is obliquely ſituated in the middle. A large artery, and the brachial nerve, generally lie under or on one ſide of the Baſilic; and the tendon, or aponeuroſis of the biceps muſcle, between the Baſilic and Median; ſometimes more immediately under the latter. The Cephalic ſeldom lies ſo fair and ſteady as the others.

Previous to the operation, provide a fillet about an ell in length, and full two fingers in breadth; a ſmall ſquare compreſs of ſoft linen rag, with a bit of lint in the middle; a baſon, or a proper number of ſmall cups, to receive the blood; a baſon with water, and a ſpunge, or towel; then fixing upon the moſt eligible vein, apply the ligature, moderately tight, about an inch above the elbow-joint, and faſten it with a ſlip-knot on the outſide of the arm. To render the vein bolder, rub the arm well from the wriſt upwards; make choice of a ſpear or broad-pointed lancet, according to the depth or fleetneſs of the vein; place it between the lips and teeth, with the blade ſo far removed from the handle, as to form an obtuſe angle; then fixing the arm firm and extended

tended againſt your breaſt, graſping it with one hand, in ſuch a manner as to be able to preſs the vein with the thumb, juſt below the part you mean to open, in order to keep the vein ſteady; examine carefully, by preſſure with the middle or fore-finger of the other hand, with which you are to operate, the exact ſituation of the artery, nerve, or tendon; and, as it were, ſound the depth of the vein: if free from hazard, take hold of the lancet with the fore-finger and thumb, about half way of the blade, and reſting upon the other fingers, thruſt the point into the vein; immediately upon its entrance therein, raiſe the point, by depreſſing its heel, and withdraw it.

If the ſtream be weak, or ſtops, ſlacken the ligature a little, and gently bend the arm for the purpoſe of relaxing the orifice; and further, give the patient a ſtick into his hand, with which he may ſupport his arm, and at the ſame time, by turning it round, will accelerate the courſe of the blood through the orifice. The neceſſary quantity of blood being drawn, take off the ligature, cleanſe the orifice with a clean wet ſpunge, and preſs the edges of it together, ſo as to exclude every particle of blood: apply the lint and compreſs over the wound, and preſs the thumb firmly thereon: having wiped the arm clean and dry, carry the bandage over the compreſs round the elbow, in the form of a figure of 8, leaving enough of it at each end to tie on the outſide of the arm, above the elbow.

The bandage and compreſs are commonly removed on the following day; but if the latter ſhould adhere to the lips of the orifice, it will be proper to continue them on a day or two longer. Some ſurgeons apply a piece of lytharge plaſter over the lint, and ſome, only the rag, dry or moiſt: but let it be underſtood, that plaſter will not agree with all, and that the principal obſtacles to the healing are, a ſmall particle of coagulum lodging between the

edges

edges of the orifice, too great motion of the arm after the operation, and the wound being ſoon after expoſed to the external air.

Bleeding in the Hands, Feet, and Ankles. Two chief veins, with their ſeveral branches, run over the back part of the hand; the one named Splenica, which bends its courſe from the little finger, and the Cephalica, which runs between the thumb and fore-finger.

It is cuſtomary, and moſtly neceſſary, to place the hand for ſome time in warm water, and to rub it well at times, in order to make the veins more turgid, both before and after the ligature is made round the wriſt. If the blood ſhould not flow freely, the hand ſhould be again put into the warm water, and be kept there till the proper quantity is diſcharged. Proceed afterwards as has been before directed.

The ſaphena and cephalic veins on the foot, or their moſt conſpicuous branches, may be opened and treated after the ſame manner with thoſe of the hand; tying the ligature tight above the ankle, and obſerving to fix upon the vein which is moſt turgid and free from tendon.

Bleeding in the foot is ſtill practiſed in feminine obſtructions; and the ſurgeon that does not comply in that point will inevitably incur the cenſure of the good women; whoſe opinions in medical matters, although generally founded on falſe grounds, and ſupported by prejudice, may as well be complied with in ſuch trifles.

Bleeding in the External Jugulars. Theſe veins lie deep in many ſubjects; and, to raiſe them to view, it is neceſſary to place a firm linen compreſs in the courſe of the vein, on the lower part of the neck, and to fix a neckcloth, handkerchief, or common ligature over it, and tie the two ends under the oppoſite arm-pit; or it may be held tight by an aſſiſtant. In ſome inſtances it has anſwered better, from applying the compreſs and bandage on the oppoſite ſide of the

the neck to that on which the operation was to be performed. The bandage being fixed, the vein is to be preſſed with the thumb, and the lancet paſſed juſt above it, in the manner before directed. The orifice ſhould be made rather larger than on other parts.

In particular caſes, blood is alſo drawn from the parts affected, or thoſe which are contiguous thereto; as under the tongue, on the eye, hæmorrhoidal veins, &c.

ACCIDENTS FROM PHLEBOTOMY.

The principal accidents which occur from venæſection are, thrombus and ecchymoſis; occaſioned by an effuſion or diffuſion of blood, from the vein into the cellular membrane; wounds of the ſubjacent artery, nerve, and tendon; and inflammation of the vein.

Thrombus and Ecchymoſis. Sometimes in bleeding, the unavoidable protruſion of a ſmall piece of fat, the change of poſture in the arm, or the orifice being too ſmall, will occaſion the ſtream of blood to be impeded; and a portion of it will be forced between the ſkin and the cellular membrane, ſo as to raiſe a ſmall tumour over the orifice in the vein, which is called Thrombus: and when the extravaſated blood leaves a diſcolouration round the part, which at firſt aſſumes a blueiſh hue, then changes to a bruiſe-like appearance, it is called an Ecchymoſis.

Under ſuch circumſtances, little blood can be expected to flow from the orifice; it will be better therefore to remove the ligature from that arm, and to repeat the operation in ſome other part. Such tumours, when ſmall, require only preſſure with the thumb; thoſe of the larger kind may be diſperſed by the application of compreſſes, wetted with a mixture of vinegar and brandy, and rather a tight bandage. If the tumour cannot be diſperſed by ſuch means, it will be neceſſary to let out its contents, and treat it as a common wound.

Wounded Artery. An injury of this kind in blood-letting may be aſcertained by the blood ruſhing out in jerks with great force, notwithſtanding it is ſtrongly compreſſed, and by its florid colour. The means commonly uſed for the immediate relief of this accident are, tight preſſure on the orifice, and in the courſe of the veſſel up the arm, by firm compreſſes and ſtrict bandage.

Mr. Benj. Bell, in his excellent ſyſtem, condemns this practice, and obſerves that when the preſſure is in ſo great degree as to ſtop the courſe of the blood through the artery, the circulation in the whole limb muſt be ſtopped; and that if the vein be compreſſed, the blood muſt be greatly obſtructed in its return, and be more likely to force its way through the opening in the artery, into the cellular ſpace around. The method which he recommends at firſt is, to take off all preſſure from the veins; to evacuate as much blood as the patient can well bear the loſs of; to retain the lips of the wound together, by means of ſtrips of ſticking plaſter, without bandage; to keep the limb in the moſt eaſy poſture, and the body cool; to preſcribe low diet, gentle laxatives, and repeated bleedings, if requiſite; and to enjoin reſt. Under ſuch management, he declares that the wound in the artery is much more likely to coaleſce, than with the cuſtomary treatment by preſſure and bandage.

The foregoing objections and treatment are principally argumentative, ſince it is well known that preſſure and ſtrict bandage have ſucceeded; but the objections do not make ſo forcibly againſt that degree of preſſure which is juſt ſufficient to reſtrain the efflux of blood from the puncture; which Heiſter and others have recommended from experience, and which was effected by firm compreſſes planted in the courſe of the artery, above and below the orifice, with another directly over it; together with ſuitable bandage, reſt, and every neceſſary reſtraint.

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The latter means, however, were formerly uſed, upon the preſumption that gangrene would inevitably follow an entire ſtoppage of the circulation through the main trunk of the femoral artery; whereas diſſection and experience have proved the contrary. It may alſo be further remarked, that the ſucceſs of both compreſſion and ligature depends chiefly on the obliteration of the arterial canal, about the point where the veſſel is injured. In the varicoſe ſwelling, which is particularly noticed under the article Aneuriſm, moderate preſſure, at firſt, is likely to prove beneficial.

If, in accidents of this kind, the means preſcribed ſhould not prevent an increaſe of ſwelling, which too often happens to be the caſe, it muſt terminate in a tumour of the aneuriſmal kind, and be treated accordingly.

Wounded Nerve and Tendon. When the patient complains of exquiſite pain in the part bled, at the moment of operating, it is moſt probable that the nerve is hurt: if the operation be ſoon ſucceeded by an obtuſe pain, with frequent dartings, the ſubjacent tendon or aponeuroſis is more likely to be the injured part.

Whenever ſuch extraordinary ſymptoms are complained of, it will be proper to let the blood flow more copiouſly than was at firſt intended, from the vein that is opened, or from ſome other part, if neceſſary; and to enjoin the patient to keep himſelf as cool as poſſible, and the limb perfectly at reſt; applying Goulard's ſaturnine water, or Mindererus's ſpirit, to the wound and adjacent parts; and adminiſtering a cooling purge. At other times inflammation and tenſion ſoon form, the pain increaſes, the lips of the wound grow hard and inflame, and in a ſhort time comes on a ſerous diſcharge. It may continue thus two or three days, when every inflammatory ſymptom increaſes, and extends itſelf over the whole limb, accompanied with a ſtrong ſenſa-

tion of burning heat, a duſky eryſipelatous redneſs, and a tight quick pulſe. Sometimes theſe ſymptoms are rapidly ſucceeded by twitchings of the tendons, convulſive affections, and a locked jaw; from which, death alone releaſes the unfortunate patient.

The late Mr. John Hunter was of opinion, that theſe fatal ſymptoms might be produced from a mere puncture of the vein, and that they are firſt brought on by an inflammation in the internal ſurface of the vein; which diſeaſe he declared that he had often traced in horſes, that have died from bleeding, along the courſe of the vein even to the heart: and affirmed, that the ſame inſtances had occurred in the human frame. Notwithſtanding which, the former opinion ſtill prevails, viz. that every ſymptom proceeds from injury in the nerve or tendon.

If the ſymptoms of pain and inflammation be likely to increaſe, and fever riſe, repeat the bleeding from ſome other vein, or by a number of leeches on or near the part affected, and keep the bowels lax. Cover the inflamed parts with doubled cloths moiſtened with ſaturnine applications, and give opiates at proper intervals.

Should theſe applications fail of effect, a total diviſion of the parts injured will be neceſſary; to accompliſh which, the tourniquet being properly applied, let a free and extenſive tranſverſe inciſion be made through the teguments; then gradually, and with the utmoſt caution, proceed with the knife and ſpunge, and narrowly inſpect the parts, for the diſcovery of the punctured nerve or tendon, which lies contiguous to the vein, avoiding, if poſſible, the larger veſſels and tendons. The injured part being divided, looſen the tourniquet, and carefully ſecure the wounded arteries by ligature. In proſecuting this buſineſs, the parts adjacent to the injured nerve or tendon are ſometimes more particularly ſtrictured; releaſing which only gives great eaſe, and is ſome-

times ſufficient to render further proceedings unneceſſary.

The wound ſhould be dreſſed with ſoft lint, and afterwards as in common; obſerving to keep the arm in the moſt eaſy poſture during the inflamed ſtate.

The following obſervations, if ſtrictly attended to, will obviate all the foregoing miſchiefs.

The ſituation of the artery, aponeuroſis and nerve, is commonly under or near the baſilic vein, ſometimes nearer to the median; but the vein being not ſo ſtrictly attached to the ſurrounding parts, may in ſome meaſure be cleared from all of them by twiſting the wriſt and elbow.

When the perſon who is to be bled is timid, graſp the arm firm, and guard the lancet well, by holding the blade rather nearer the point than uſual.

Particular care ſhould be taken not to dip the point of the lancet into the vein after its entrance, and rather to elevate it immediatey before it is withdrawn.

The ſituation of the artery and tendon are eaſily to be felt, by preſſure with the finger, and bending the elbow-joint; the one from its pulſation, the other from a tight cordy feel.

The ſtation of the nerve is ſeldom to be perceived; ſometimes, by a certain twiſt and bend of the arm before the ligature is fixed, it is to be felt like a ſlender thread. It commonly lies under, or parallel to, the inferior part of the vein; ſtill, from its minuteneſs in compariſon to the ſize of the vein, and its inferior ſtation, there will be no riſk of wounding it, provided the lancet be entered in the courſe of the vein, or with the leaſt oblique direction towards its ſuperior part. Thoſe who accuſtom themſelves to paſs the lancet acroſs the vein, are moſt likely to do hurt.

ARTERIOTOMY.

This operation may be performed much after the ſame manner as phlebotomy, except that the inciſion ought to be deeper, and always in an oblique direction. It is ſcarce ever performed in any part but the temples; where the arteries or their branches are eaſily perceptible to the touch, and may be readily and effectually compreſſed.

The patient is to be ſeated conveniently, with his head inclined againſt the light, and held ſteadily againſt the breaſt of an aſſiſtant. When the ſurgeon has clearly diſcovered the courſe of the artery, let him place his two fore-fingers, or fore-finger and thumb of the left hand, at a moderate diſtance from each other upon it; then dip the end of a ſtrong lancet, not too broad pointed, carefully between, obſerving to enlarge the inciſion, by elevating its point as it is withdrawn. If the blood ſhould follow the lancet in a ſalient ſtream, and is of a fine florid colour, the artery is properly opened; otherwiſe the inciſion muſt be repeated till the veſſel is rightly opened. Some ſurgeons firſt lay bare the artery with the edge of a lancet, or a ſmall diſſecting knife, eſpecially when it is deep ſeated, and then make an opening into the veſſel; others, without ceremony, divide it obliquely, or quite acroſs, with a ſmall inciſion-knife; the firſt method is to be preferred, as moſt dexterous, and leaſt painful; the laſt, as moſt certain; which may be a matter of the greateſt moment in urgent caſes.

After the proper quantity of blood is drawn, the orifice and adjacent parts are to be wiped quite clean, dry lint is to be applied, and a ſmall ſquare compreſs, including a flat bit of lead, or farthing, or ſome ſuch thing; another hard compreſs in the courſe of the artery, and a third over all; which may be firmly ſecured by the reverſed or nodoſe bandage, and continued on about a week or ten days,

days, in which time the wound is commonly healed. Should the hæmorrhage be difficult to ſtop, a circumſtance that under proper management ſeldom happens, the veſſel may be ſecured by ligature.

Experience can teſtify the immediate good effects of this kind of blood-letting, in obſtinate diſorders of the head and eyes, in ſanguineous apoplexies, violent concuſſions of the brain, &c.

TOPICAL BLOOD-LETTING.

Cupping and Scarification. This and leeches are the principal means uſed in local blood-letting. The firſt is performed after the following manner: take a very ſmall piece of fine flax, or dip a little piece of grey paper into ſpirit of wine, ſet either of theſe on fire, and put it into the bottom of a cupping glaſs, the mouth of which being immediately applied to the part intended to be bled, will be firmly fixed thereto. After the glaſs has been thus ſtationed ſo as to raiſe the ſkin, let it be taken off again, which may be eaſily done by depreſſing one edge and forcing the other upward. The ſcarificator which contains twelve or ſixteen ſmall lancet-blades, fixed in a braſs cubical box, with a ſteel ſpring ready ſet, is to be placed with the part where the openings are made for the blades to paſs downwards, cloſe upon the reddiſh ſwelled circle: let this inſtrument ſo placed be preſſed down, and held firm by the fingers and thumb of each hand, on oppoſite ſides; one thumb is then to be paſſed to the braſs button, and to preſs upon it ſo ſtrongly as to ſet looſe the blades, which, in paſſing to the other ſide of the inſtrument ſo inſtantaneouſly, will form an equal number of regular ſmall inciſions, with little or no pain. This being done, fix the cupping glaſſes *as before directed*, exactly over the ſame circular part, and the blood will immediately begin to flow from the inciſions; when the glaſs

is nearly full, remove it, and pour the blood into a baſon; then ſpunge the part with warm water, and apply another glaſs, or the ſame wiped dry, if neceſſary.

In ſome caſes five or ſix glaſſes have been employed at one and the ſame time. Should the blood flow too ſlowly, new inciſions may be made to the former. When the neceſſary quantity of blood is drawn, carefully ſpunge the little wounds with warm water, and apply a piece of ſoft linen, or a pledgit of lint, dipped in milk or cream, over them.

Cupping and ſcarification is practiſed ſucceſsfully on the head, neck and ſhoulders, occiput, behind the ears, on the back, loins, legs, thighs, arms, and wherever the form of the part will admit; for the relief of the head, eyes, and ears, hæmorrhage in the noſe, the pleuriſy and other fixed pains, topically or otherwiſe.

Dry-cupping, that is, without ſcarification, is ſaid to be of ſervice in ſome local diſorders; but the principal circumſtance in which it is likely to be ſo is, promoting ſuppuration, by fixing the glaſs upon the part affected.

Blood-letting by Leeches. Naturaliſts call the common leech an aquatic inſect. It has the figure of a worm, and is about the length of a man's little finger; it has a ſmall head, a black ſkin edged on each ſide with a yellow line, and it's belly is rather reddiſh; there are alſo a few yellowiſh ſpots on its back. It is ſaid to produce its young alive, and one at a time, in the month of July. The common blood-drawing leech may be readily diſtinguiſhed from the horſe-leech; the latter being larger, and having a ſmooth gloſſy ſkin; its back is black, ſpotted with grey, its belly is alſo ſpotted with the ſame colour, and it has a blueiſh hue. Vide, Brooke's Natur. Hiſt. vol. iv.

Leeches may be uſed with advantage where the lancet

lancet and cupping are inadmiſſible. The mode of uſing them is too generally known to need much preciſion in its deſcription. There is ſometimes a difficulty in fixing them, which may be removed by letting them crawl for a minute or two on a dry cloth or board, or by moiſtening the ſpot on which they are to be fixed, with milk, cream, or blood, and covering it with the mouth of a common wine glaſs. They generally ſuck till they are full, and drop off; after which, the diſcharge, if required, may be promoted, by the repeated application of ſpunge and warm water. They are frequently and repeatedly applied with ſucceſs, to painful tumours about the joints, and on membranous parts.

If after ſucking ſufficiently, they are not eaſily to be ſeparated, a grain of common ſalt may be dropped on their backs, and they very ſoon quit their hold. They ſhould be kept in clean water a few days before they are uſed. Some cruelly cut their tails off whilſt they are ſucking; by which means the blood flows through them, and they are ſaid to ſuck a longer time, but they die ſoon after; whereas thoſe that are treated more humanely, may be returned into the glaſs, and reſerved for future uſe.

Bleeding by ſimple Scarification. This operation may be performed with the fine edge of a lancet, or by lightly bruſhing the part with the beards of barley; which latter proceſs is principally confined to ſome obſtinate inflammations of the tunica conjunctiva of the eye. The operation with the lancet may be attended with advantage; but that of bruſhing the eye, as it is called by itinerants, may make bad worſe. When the lancet is uſed, the ſuperior lid ſhould be held up by an aſſiſtant, and the inferior is to be preſſed down by the operator; ſcarifications may then be made through the moſt turgid veſſels. A few eminent men have, in moſt æras, declared themſelves advocates for this operation, in particular

lar obſtinate caſes; ſtill it is very ſeldom performed.

Bleeding alſo at the corner of the eyes and eyelids was ſome years ago the boaſt of a famous oculiſt: but time and experience do not ſeem to have favoured this practice; for it is not ſo much as thought of by the preſent practitioners.

ISSUES *and* SETONS.

Iſſues are ſmall artificial ulcers, made in ſeveral parts of the body, for preſerving and recovering health. The places where they are commonly formed are, the crown of the head, the nape of the neck, behind the ears, at the inſertion of the deltoid muſcle, and on the thighs and legs, in the hollow juſt above and below the inſide of the knee.

Iſſues are commonly made by inciſion or cauſtic. The former is the moſt eaſy and ready method, and is done in fat habits, by plunging the point of a ſtrong bladed lancet through the cutis, after the manner of bleeding, then bearing it forward, upward, and outward, ſo as to make the orifice large enough to hold a pea or horſe-bean: or in thin habits, by pinching up the ſkin with the fore-finger and thumb of the ſurgeon and an aſſiſtant; then darting the point of the lancet through the ſpot required in a tranſverſe direction, and bearing the blade upward and outward. After introducing the pea, a proper plaſter compreſs, and bandage, are to be applied. The firſt mode of inciſion is moſt eligible, when the ſkin is tight and full; the laſt in thin habits, when it is looſe and lies cloſe to the tendinous faſcia which covers the muſcles.

The mode of uſing the cauſtic for this and other purpoſes, may be underſtood from what is already ſaid under the article, *Maturation*. The ſize of the aperture in the plaſter ought to be in proportion to the number of peas which are to be employed in keeping

keeping the part open, making a proper allowance for the cauſtic ſpreading beyond the intended limits. This method is commonly uſed where large diſcharges are thought neceſſary: as in the ſide, for a pleuritic pain, or in phthiſis; or between the ſhoulders, in complaints of the head, &c.

Thoſe who are too timid to undergo either of theſe operations for forming an iſſue, draw them, as it is vulgarly called; which is done by placing a pepper-corn properly enveloped with bliſtering ſalve, upon the part where the opening is to be made, and confining it there with a piece of ſticking-plaſter, a compreſs of linen cloth, with a ſmall piece of money in its neareſt fold, and rather a tight bandage: by which means, about the ſecond day, an opening will be made ſufficient to introduce a ſmall pea; this ſhould alſo be kept in by the ſame preſſure, daily increaſing the ſize of the pea till the iſſue is perfectly formed.

This ſore muſt be dreſſed once or twice a day, according to the nature and quantity of the diſcharge: putting in a horſe-bean, or one or more freſh peas; and covering it with plaſter, compreſs and a ſlip or other kind of bandage.

When the opening inclines to fungus or rejects the pea, it may be brought into a proper ſtate by blue vitriol, or by introducing a pea dipped in an aqueous ſolution of it; alſo, by burnt alum, or lunar cauſtic. Bitter oranges, peas ſmeared with equal parts of bliſtering ſalve and cerate, or ſlightly duſted with powdered cantharides, will be occaſionally neceſſary to increaſe the diſcharge.

Iſſue on the Head. Some phyſicians place great confidence in iſſues formed in the ſcalp, at or near the part where the coronal and ſagittal ſuture meet, particularly in vertigo, coma, &c. and in diſorders of the eyes and ears. This operation was formerly done by the actual cautery, afterwards by the cauſtic, and is now performed with the knife; it is by ſome

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transferred more to the back part of the head, by cutting out a piece of the ſcalp, about the ſize of a ſhilling or half-crown, down to the perioſteum, and keeping it open with a piece of gentian root, with peas, or horſe-beans. The diviſion of the veſſels at this point, is ſuppoſed to be of particular uſe. It may be found neceſſary in the latter opening, to dreſs for the firſt time with a plenty of dry lint, compreſs, and bandage, in order to prevent extraordinary hæmorrhage; and as ſoon as the opening can be freed, to apply the neceſſary means for keeping the part open, and promoting the diſcharge. This ſeems to be one of thoſe conſequential proceſſes, which may at leaſt anſwer the purpoſe of renewing hope in a deſponding patient. No ſatisfactory reaſon has been given why the diſcharge from iſſues made by cauſtic, behind the ears, between the ſhoulders, or from a ſeton in the nape in the neck, ſhould not be equally efficacious; or why opening a vein, or dividing the temporal artery, ſhould not anſwer every other intention as well.

Setons are more efficacious than iſſues, as they occupy more raw ſurface, conſequently yield a greater diſcharge. They are chiefly made in the nape of the neck, and in the ſide.

There are two modes of performing this buſineſs; one by deeply pinching up the ſkin as before directed, and thruſting through it a broad-bladed needle, formed for this purpoſe, and armed with ſeveral ſmall threads of ſilk, with thread, or cotton-wick looſely twiſted: the other is done by taking up the ſkin as before directed, and paſſing the end of a double-edged ſcalpel, or a ſtout lancet through it, then paſſing an eye-probe, properly armed, through the opening. This method is generally preferred, as it admits of making a larger aperture than that with the needle.

The ligature ſhould be of a tolerable length, and of an adequate thickneſs to the ſize of the opening: from

from twenty to thirty threads of middle-ſized ſilk looſely twiſted. The ligature ſhould be occaſionally ſmeared with a light digeſtive, about the length of the diſtance between the two openings, and clean wiped occaſionally. When the whole length of the ſkin is nearly exhauſted, a clean ſkain muſt be introduced: a plaſter, compreſs, and convenient bandage are to be applied over it, taking care to carry the ſpare part of the ſilk above the upper edge of the plaſter, that it might be leſs apt to drag and to be daubed.

The uſe of artificial outlets is daily experienced, more eſpecially in ſcorbutic and cachectic habits; but in ſuch kind of conſtitutions, one common iſſue only can have but little effect.

Complaints in the head and eyes have been often relieved by the diſcharge from a ſeton: obſtinate pains in the ſide, attended with a bad cough, have alſo been benefited by it.

Actual and Potential Cautery.

Actual Cautery. Cauterization was once an univerſal remedy. The irons of various ſizes and figures, uſed on different parts and occaſions, formed a conſiderable part of the ſurgeon's apparatus, and are accurately deſcribed, and favourably mentioned by ſome eminent writers. They were uſed for removing ſcirrhous tumours, cancers, excreſcences, carbuncles, and mortified parts; to remove caries, to make iſſues, &c. and to ſuppreſs hæmorrhage: to cure gutta ſerena, apoplexies, epilepſies, ſciatica, &c. and to remove every fixed pain. A celebrated foreigner, not long ſince, was famed for applying the actual cautery in various diſeaſes. But ſo it happens with this, as with every other univerſal remedy, it is nearly ſunk into diſuſe; being chiefly employed in curing the tooth-ache, and ſuppreſſing hæ-

hæmorrhage from veſſels which cannot be ſecured with the aſſiſtance of the needle or tenaculum.

Burning with Moxa. This ſpecies of cauterization is eſteemed as grand a catholicon in China and Japan, as that with the hot iron was not long ago in Europe.

This operation is performed by means of cones made of moxa, a ſpecies of Indian mugwort; they are about an inch in length, and the ſame in diameter at the baſe; are ſlightly fixed upon the part with a gummy ſolution, then ſet fire to at the top, and ſuffered to burn down to the ſkin, and form an eſchar. The after-treatment is like that with the cauſtic.

Not more than three at one time were applied to perſons with weak conſtitutions, but ten, and even twenty, are ſaid to have been fixed upon the limb of a ſtrong man. Much relief has been found from this mode of cauterizing in deep-ſeated, obſtinate, rheumatic pains, eſpecially thoſe ſeated about the hip-joint. The cones were made with cotton cloſely put together.

The Arabians, Perſians, Mahometans, and Indians, on this ſide the Ganges, uſe cotton for this purpoſe; the Gentoos, and Indians beyond the Ganges, are ſaid to uſe the pith of the bull-ruſh imbrued with the oil of ſeſame; and the Laplanders apply a ſort of muſhroom.

Potential Cauteries. Cauſtic medicines when applied to a part, act ſlower, perhaps not with leſs pain in ſome habits, than the hot iron, but produce the ſame effect. They have various degrees of ſtrength; the moſt powerful are what were lately called lapis infernalis and cauſticum commune fortius: the milder ſort are the ſolution of quick-ſilver in aqua fortis, the other common cauſtic, and the different kind of catheretics.

AMPUTA-

AMPUTATION IN GENERAL.

To ſeparate a limb from the body is conſidered as one of the moſt ſevere operations; yet it is ſometimes abſolutely neceſſary for the preſervation of life. From the ſucceſſive inventions of the tourniquet, ligature, double inciſion, and healing by the firſt intenſion, the operation is much leſs dangerous in its conſequences than formerly; and from the improved ſtate of ſurgery, particularly with regard to the treatment of compound fractures, it is become leſs needful.

The principal occaſions on which the ſurgeon's aid is thus required, are, when part of the limb is ſo far deſtroyed by mortification that it cannot be reſtored; when the bones, ligaments, and blood-veſſels are ſo terribly injured as not to leave ſufficient powers for recovering the part; and when a joint or bone is ſo greatly diſeaſed, as from pain, abſorption or diſcharge, muſt prove fatal.

When the heads of bones and the ſurrounding parts are greatly comminuted and torn, it is perhaps more eligible for the ſafety of the patient to amputate, than to endeavour to ſave the limb; yet there have been inſtances where the ſhattered heads of bones have been taken off and the limb ſaved: but the conſequent inflammation, abſceſſes, great diſcharge, length of confinement, and other painful incidents, amongſt which langour and deſpondency were by no means the leaſt, render the cure a dangerous and diſtreſsful purchaſe. Yet, let it be underſtood, that, in deſperate caſes, no prudent ſurgeon will either attempt to delay or perform an operation of ſuch moment, without firſt conſulting with the moſt ſkilful practitioners in his neighbourhood.

It is alſo to be obſerved, that when inflammation and tumour are riſen, and gangrene is threatened, whether

whether the latter ſymptom be occaſioned from age, conſtitution, or accident, it has been judged neceſſary, not only to wait till, by the aſſiſtance of internal, as well as external means, the line of ſeparation is formed, but alſo till the ſeparation is far advanced, and new fleſh ſhews the operation to be perfectly warrantable: Notwithſtanding which injunction, ſome able men wait no longer in moſt caſes than till the line of ſeparation is fairly formed, hoping by ſuch means to free the ſyſtem from miſchiefs attending the abſorption of the gangrenous matter, taking care to begin the firſt inciſion a ſufficient height from the diſeaſed part. Age, and a bad conſtitution, are undoubted objections to operation at the earlier period; but youth, and accidental cauſes, may admit of leſs delay.

The apparatus neceſſary upon ſuch occaſions, conſiſts of the following particulars: Petit's ſcrew-tourniquets, a ſlip of rag or tape, near an inch broad, to fix round the part, as a mark for the circular-limit of the firſt inciſion; a knife ſtraight or curved, as beſt ſuits the hand of the operator; the catlin, or double-edged ſcalpel, for dividing the interoſſeal fleſh and ligament between the ulna and radius, or the tibia and fibula; a retractor, made with leather or ſtrong linen cloth, to draw the muſcles back with, in order that the ſaw may be ſet on as far back as poſſible; a ſaw, a tenaculum, or hook-like inſtrument, to draw the ends of the arteries out with, and ligatures for ſecuring them; ſome crooked needles, flat and double-edged only, large and middle ſized, properly armed with ſtrong ligatures; a flannel or cotton roller, for making a circular bandage near the end of the ſtump, to prevent the retraction of the teguments; ſcraped lint, ſlips of linen rag ſpread with adheſive plaſter, with which the oppoſite edges of the wound are to be kept together; a ſoft pledget of tow ſpread thin, with a mild cerate, or ſome emollient ointment; a

compreſs

compreſs made with fine tow, a croſs-cloth, or thin linen night cap, to inveſt the ſtump with, and a ſhort roller to confine the cap with at its upper part.

If a lower limb is to be taken off, it will be proper to lay the patient on a table, about two feet ſix inches high; if an arm, he is to be fixed on a chair of convenient height. Two ordinary aſſiſtants will be neceſſary to keep the head, body, and limbs ſecure and fixed, and two perſons, of ſufficient ſkill, ſhould hold the condemned limb; one above the part to manage the tourniquet, the other to ſupport the inferior part of the limb; a fifth ſhould be ready to hand the inſtruments when called for.

The tourniquet is to be fixed on the upper limb, above the part to be operated upon; if on the thigh or arm, a compreſs ſhould be placed under the ligature, in the courſe of the main artery, to aſſiſt in ſtopping the circulation; in the mean time the operator may fix the circular tape for the direction of the knife, but ſkilful practitioners need no ſuch aid.

The tourniquet being properly tightened, and the limb held firm in a regular direction, the firſt inciſion is to be made at the inferior part of the linen roller or tape, through the ſkin and adipoſe membrane, down to the muſcles only; having ſet on the heel of the knife far under the limb, and the point towards the upper part, ſo as with one ſweep to form two thirds of the circle; the wound ſhould then be continued by beginning at the upper part of the inciſion, on the upper or further ſide, and finiſhing in one circular line. Having removed the tape, the cellular attachments are to be divided; then the upper aſſiſtant is to draw back the integuments with both hands, as far as poſſible; after which the ſecond inciſion muſt be made cloſe to the edge of the retracted ſkin, perpendicularly through the muſcles and perioſteum down to the bone. If in the leg or arm, the interoſſeal parts are to be

divided with the point and edge of the knife or catlin, in a line with the laſt inciſion; and before the ſaw is applied, it will be beſt to fix the retractor, by means of which the whole of the fleſh above the inciſion and ſeparation, may be more forcibly held back than can be done with the hands of the aſſiſtant, and the ſaw may be ſet on greatly to the future advantage of the ſtump.

In the more modern mode of performing the operation, it has been uſual to diſſect up the ſkin, in order to preſerve a greater portion of it, particularly in the amputation of the leg, or lower arm, in either of which caſes it is thought neceſſary to ſeparate it about an inch from the ſuperior edge, and to turn it back all around, for fear of wounding it in making the inciſion through the muſcles. It is alſo a maxim with ſome eminent practitioners, for the ſake of forming a good ſtump in both leg and thigh, previous to dividing the bone, to ſeparate the muſcles from the bone about an inch upwards; this may be readily done, by carrying the point of the common amputating knife between them, freely round the limb, by which means the retractor may be uſed to much greater advantage. The perioſteum ſhould be divided by *one turn* of the knife, placed cloſe to the retractor, for the reception of the ſaw; ſince exfoliation is not unlikely to be the conſequence of *ſcraping off* that membrane.

The ſaw ſhould be gently entered at firſt; and in the leg or lower arm, muſt be ſo directed as to work upon both bones at once, which cannot be done conveniently without ſtanding on the inſide of the limb; if not ſo, the bones, the fibula particularly, will be diſagreeably ſplintered. Whilſt the operator is uſing the ſaw, the lower part of the limb ſhould be held as ſteady as poſſible, rather a little depreſſed, ſo as to give more room for the inſtrument to work; about the end of this operation, care muſt be taken fully to ſupport the limb againſt its own

own weight, otherwiſe the bone will be inevitably ſnapped off, and leave a troubleſome point or ſplinter, which ought to be immediately removed with the nippers.

The next ſtep is to ſecure the veſſels, a buſineſs that requires the utmoſt care and circumſpection: the moſt certain and ready way of doing which in the larger veſſels, particularly when they retract much, is, with the needle and ligature, by paſſing it nearly round the extremities of each artery, including as ſmall a portion of the adjacent muſcles as poſſible, and incloſing the whole with the ſurgeon's knot drawn perfectly tight.

Rational objections are certainly made to this mode of tying the arteries, the principal of which is, that by including the nerve and parts of the muſcles, the painful ſpaſms, which are too apt to occur from the diviſion of the parts alone, are likely to be increaſed. On which account, the method of drawing out the ends of the arteries, and endeavour to tye them without the intervention of either nerve or muſcle, has been brought forward, by means of an inſtrument much better adapted to the purpoſe than what was formerly uſed, the forceps; ſtill it is often found neceſſary, after repeated and tedious attempts with the tenaculum, to fly to the needle and ligature, particularly when the mouth of the veſſel is much retracted; for which reaſon, needles properly armed, ſhould always be in readineſs.

To diſcover the orifice of each veſſel, the ſurface ſhould be ſponged as free from blood as poſſible; immediately after doing which, the aſſiſtant ſhould occaſionally looſen the tourniquet, which, when ſet at a proper pitch, may be done by a half turn of the ſcrew, and as quickly recovered again. The large veſſels being ſecured, either with the tenaculum or needle, the operator ſhould proceed to ſecure every ſmaller veſſel that appears to leak, and this ſometimes is more readily and ſecurely done

by catching the veſſel's mouth with the tenaculum, and paſſing a ſmall needle and ligature round it, than by forming the nooſe. A large ſtump below the knee has often required ſix or eight ſtitches. Care ſhould be taken to leave the ends of the ligatures long enough to hang out at the edges of the wound, in the manner already deſcribed under article, Wounds.

If the patient be rather faint, after the larger veſſels are ſecured, it will be neceſſary to looſen the tourniquet, and to ſpunge the ſurface with warm water, in order to invite hæmorrhage before the ſtump is cloſed up; by which means, and at the ſame time giving the patient a little wine, or wine and water, a lurking veſſel has been detected, which might have been the ſource of much pain and trouble; every blood-paſs therefore ſhould be thoroughly explored, for fear alſo of a material interruption to healing by the firſt intention.

The blood veſſels being perfectly ſecured, and the ſtump well ſpunged with warm water, the next buſineſs is, to bear the ſkin as forward as poſſible over the ſtump, and retain it ſo by means of a circular roller, made of fine welſh flannel, which is to be bound gently round the limb, and ſhould never be omitted on any pretence whatſoever, firſt fixing it round the waiſt, or above the ſuperior joint, and winding it down to the end of the ſtump. The ends of the divided muſcles, and the edges of the ſkin, are then to be placed in regular order, and to be retained ſo by long ſlips of adheſive plaſter; the covering dreſſings then to be applied are ſoft lint, ſpread with a mild cerate, and a pledgit of fine tow over it; a thin compreſs of fine rag, with a croſs-cloth, and a very ſlight retentive bandage. A thin linen night-cap turned over the dreſſings, and ſlightly faſtened with tape at the upper part, is preferable.

The croſs-ſtitch has been uſed for the ſame retentive

tentive purpoſe in amputations of the thigh, breaſt, &c. but it generally occaſioned much pain without anſwering the intent.

Should the part burſt open, and the ſtump become raw, which is ſeldom the caſe except in a very diſeaſed habit, or from improper management, it muſt be treated in the ſame manner as other raw ſurfaces, with dry lint in the middle, and ſlips of rag or lint, ſpread with white cerate, round the edges. When the ſubject is greatly reduced, or the blood in a looſe ſtate, an oozing would ſometimes continue from the ſmaller veſſels, to check which, Dr. Kirkland orders the ſurface to be duſted with fine wheat flour and ſtarch, or a mixture of ſtarch and gum arabic finely powdered, and lint enveloped with the ſame powder: theſe, repeatedly applied with gentle aſtringent lotions, in conjunction with bark and vitriol internally, were extremely ſerviceable in weak emaciated habits, ſhould the ſurface of the ſtump, by ſome means or other, become expoſed.

It will be both prudent and neceſſary to keep a ſtrict watch over the patient for two or three nights, and that the aſſiſtant ſhould continue gentle preſſure with the hand againſt the end of the ſtump, to reſiſt the violence of the ſpaſms, and to be the more readily apprized of hæmorrhage. The tourniquet ought alſo to be kept upon the limb ſo looſe as not to reſtrain the circulation, yet ſo as to admit of being inſtantaneouſly tightened in caſe of hæmorrhage; the manner of doing which ſhould be explained to every one that attends upon the patient.

If but little blood has been loſt during the operation, and the patient be plethoric, it may be proper to take ſome from the arm, and every probable means for preventing or checking the ſymptomatic fever ſhould be purſued. The reſt of the after-treatment muſt be managed according to the ſtate

of the conſtitution, the quantity of the diſcharge, and the further directions given under the article of Wounds in General, or under the following particulars.

AMPUTATION IN PARTICULAR.

After the foregoing general account of performing the operation, it will be proper to remark ſome particularities which each part is ſubject to in its performance, beginning with the extremities.

Amputation of the Fingers and Toes. Theſe parts are moſt commonly taken off at the firſt or ſecond joint above the injury. A common ſcalpel is the fitteſt inſtrument for the purpoſe, and the firſt inciſion ſhould be made rather below the joint, to preſerve the ſkin for its better healing: the teguments are then to be retracted and aſſiſted back by a ſlight diſſection around; the lateral ligament may then be divided near to the joint, which being diſlocated, will point out the further means for a regular ſeparation. When amputation is required at the metacarpal or metatarſal joint, it may be more readily performed by making the inciſion rather longitudinally on the inſide, previous to the circular inciſion.

A ligature or two will be ſometimes neceſſary after amputating, at the articulation; and the firſt dreſſings are lint, croſs-cloth, and a narrow roller.

Fingers and toes that have been cut through accidentally with a ſharp inſtrument, have been known to unite by being regularly and immediately placed together, and retained ſo by bandage.

Supernumerary, and miſhapen fingers and toes, ſhould be taken off with the ſcalpel and ſpring ſaw in adults, but with infants, the bone may be eaſily divided with the ſcalpel, or a ſtout pair of ſciſſars; ſometimes theſe appendages have no bone.

Of the Metatarſal and Metacarpal Bones. If a part only of theſe bones be carious, it may be adviſeable to

preſerve the reſt by removing no more than what is diſeaſed. The wound in ſuch caſe often heals kindly, and the remainder of the foot may be of great uſe.

Of the Hand and Lower Arm. Theſe operations, as well as the foregoing, are ſaid to have been performed with the chiſſel and mallet; but ſuch uncouth means are juſtly diſcarded. The amputation of the hand is now generally performed at a moderate diſtance from the wriſt joint, yet ſome prefer taking it off at the joint when that part is free from diſeaſe or injury. The particular circumſtances to be attended to in operating upon the lower arm, are, to ſave as much of the limb as poſſible; to divide the fleſh and ligament between the ulna and radius with the catlin, in a line with the ſecond inciſion, and to ſet on the ſaw in ſuch a manner as ſhall work upon both bones at once.

Some ſurgeons have been ſo bold as to confide in compreſs and bandage, for ſtopping the hæmorrhage after this operation; but the practice is ſurely unwarrantable, when the veſſels may be ſo readily ſecured with the tenaculum, or needle and ligature.

Of the Upper Arm and the Thigh. The operation in theſe parts is to be performed after the general method, always obſerving to ſave as much of the limb as the nature of the diſorder will admit; and that the higher it is amputated, the more ſubject it is likely to be to violent ſpaſms, hæmorrhage, and profuſe diſcharge; conſequently more dangerous in its event. The tourniquet ſhould be particularly attended to, at and after operating on either of theſe parts, as a ſudden guſh from ſuch large arteries might be productive of diſagreeable conſequences in very weak and debilitated conſtitutions.

The croſs-ſtitch is conſidered in the preſent practice to be a painful and uſeleſs mode of approximation, therefore commonly rejected. The bandage for preventing the retraction of the tegumens and

muſcles, is of much more conſequence, and ought on no pretence to be omitted. It is generally faſtened round the waiſt or ſhoulders, previous to the operation, and is gradually carried down the limb, near to the end of the ſtump. When managed with moderate tightneſs, it ſerves alſo to abate the impetus of the circulation, and to prevent the formation of abſceſs.

Mr. Allanſon of Liverpool, who has paid great attention to the ſubject of amputation, has pointed out a new mode of operating, and has practiſed it with remarkable ſucceſs. It has been principally performed above the knee, and the following are its chief particularities:

After having finiſhed the firſt circular inciſion, and ſeparated the cellular attachments, the edge of the knife is applied upon the inner edge of the vaſtus internus muſcle, and at one ſtroke the muſcles are cut obliquely through, upwards as to the limb, and down to the bone, ſo as to lay the bone bare, about two or three fingers breadth higher than uſual in the common circular inciſion. The operator then draws the knife towards him, ſo that its point may reſt upon the bone, ſtill keeping the ſame oblique line, that the muſcles may be divided all round the limb in that direction, by a proper turn of the knife; during which, the point is kept in contact with, and revolves round, the bone. Mr. Allanſon obſerves, that the more muſcular ſubſtance there is ſaved, by fully giving the oblique direction, the better. The directions for uſing the retractor, ſecuring the arteries, and applying the circular welſh flannel roller, are ſimilar to the preſent cuſtomary method; the other principal difference is, placing the ſkin and muſcles over the bone in ſuch a direction, as that the wound ſhall appear only in a line with the angles at each ſide; from which points the ligatures are to be left out, as their nearneſs to either may be moſt convenient. He uſes a knife with a double edge.

Notwithſtanding the unparalleled ſucceſs of the ingenious inventor, as mentioned in his publication of 1779, viz. thirty five caſes, which promiſcuouſly occurred in the Liverpool infirmary, without the loſs of one patient, and the ſpeedineſs of the cure in each, very few exceeding one month; the method here deſcribed is very little attended to. For further particulars, vide Mr. Allanſon's pamphlet on amputation, in which the reader will find many uſeful obſervations.

Of the Arm at the Articulation with the Scapula. It is much better for the patient, under this operation, to be in a recumbent than a ſitting poſture. It has been ſeveral times performed with ſucceſs, and is neceſſary to the life of the patient, when the arm is ſo much injured or diſeaſed as not to admit of being taken off below the joint. The leading principles in its performance are, to preſerve the ſkin as much as poſſible, to ſecure the main artery and vein, and to guard againſt wounding them after they have been ſecured. It is directed to be done after the following manner:

Let the patient be properly ſecured on a table, with the ſhoulder brought over the edge of it; then make the firſt inciſion through the ſkin, and adipoſe membrane, beginning about two inches below the joint, at the upper part of the ſhoulder, and carrying it acroſs the pectoral muſcle down to the armpit; then turning the knife with the edge upwards, divide that muſcle and part of the deltoide, in order to expoſe the veſſels; which may be more eaſily done, by bearing the arm backwards; after which, with a needle and ligature made of five or ſix threads, tie both artery and vein; and being convinced by narrow inſpection, and the abſolute loſs of pulſe in the wriſt, that they are perfectly ſecured, carefully purſue the circular inciſion through the joint; cutting firſt into that part of the burſal ligament which is neareſt to the axilla; and in the round, be ſufficiently

ciently aware of the projection of the proceſſus acromion, and coracoides; then raiſing the arm, divide the head of the biceps muſcle, and the ligament at the upper part; lift the head of the bone from the ſocket, and carefully diſſect it away; preſerving the ſkin and teguments, and avoiding the veſſels above the ligature. After having ſecured the arterial branches, and left the ligature a proper length at the moſt convenient parts of the wound, ſponge it clean with warm water, then lay down the teguments as regularly as poſſible over the ſocket, and retain them ſo with ſlips of plaſter acroſs the edges; dreſs with lint ſpread with ſoft cerate, a pledgit of ſoft tow, and compreſs as uſual, and wind over all a welſh flannel bandage.

This operation may be particularly neceſſary when the joint is carious, or after great injury by gunſhot or other violence on the upper part of the humerus, together with the joint. Its advantages were evident in caſes of that nature during the laſt two deſtructive wars. Were an inſtrument once to be ſo happily contrived, as to afford a firm and ſufficient compreſſure on the ſubclavian artery in its paſſage over the firſt rib, a painful part of the operation might be ſafely omitted, and there can be no doubt that it would be performed as often as required. Mr. Benjamin Bell has confidently recommended a cuſhion or compreſs to be held firmly by the hand of an aſſiſtant in the courſe of that artery; yet ſurely no prudent ſurgeon would chooſe to rely upon ſo unſteady a mode of preſſure. There certainly can be little occaſion, as that gentleman obſerves, to divide the operation in the manner here deſcribed, and practiſed by the late Mr. Blomfield, provided a ſure and ſafe compreſſive inſtrument were formed for ſtopping the circulation, at the beforementioned point of the artery.

Of the Leg. In this operation the patient ſhould be laid on a table of convenient height. The tourniquet

niquet is to be fixed with the cuſhion in the courſe of the main artery, three or four inches above the knee, and the firſt inciſion is commonly made about five inches below the patella; in doing which, it is lately recommended to direct the knife in ſuch a manner, as to make theſe inciſions rather lower at the calf than at any other part, by way of allowance for future exceſs of contraction in thoſe muſcles; and to prevent irregularity in the cicatrix. The cellular attachments ſhould be ſeparated and preſerved as much as poſſible, particularly on the fore part of the leg; and the teguments, thus diſſected up, ſhould be turned back all around, before the inciſion is made through the muſcles. The retractor muſt be uſed in this operation, as being the moſt powerful means for keeping back the ſkin, and ſerving to guard the ſoft parts againſt the ſaw. The ſaw is to be applied on the outſide of the leg, for the ſake of paſſing it through both bones at once, and the aſſiſtant muſt humour its progreſs; at firſt, by ſlightly depreſſing the limb; afterwards, by firmly ſupporting it, for fear of breaking it off abruptly, and leaving an uneven ſurface on the divided end of the bone.

It has been long cuſtomary to amputate at the diſtance from the knee before directed, even when the diſeaſe requiring the operation was ſeated in the foot; but when circumſtances will admit, nearer the ankle, about nine inches from the knee-joint, is to be preferred; in doing which it will be proper to begin the firſt inciſion an inch lower than where the bone is to be ſawed through, and to ſeparate the cellular membrane cloſe to the perioſteum, for the purpoſe of getting ſkin enough to cover the ſurface of the ſtump. The operation at this part is eaſier and ſafer than juſt below the knee, and will afford greater convenience afterwards to the patient, from the aid of a leathern machine, and retaining the power of bending the knee.

THE

THE FLAP OPERATION.

The flap operation is of longer date than it has been generally ſuppoſed to be. It was particularly deſcribed and performed by Loudham and Young, two ſurgeons of repute, in the year 1679; by Sabourin, of Geneva, about the ſame time; and by Verduyn in 1696; alſo by a Dutch ſurgeon or two about the beginning of this century. It was warmly recommended by Garengeot in his Traitè des Operations de Chirurgerie, publiſhed in 1731. It was alſo ſucceſsfully performed on the arm by Ruyſch; notwithſtanding which, and the ſucceſs of more modern ſurgeons, the common mode of operating prevailed, and the new practice has been relinquiſhed even by its principal promoters.

This operation was brought forward in conſequence of the inconveniences ariſing from the inciſion being made at once perpendicularly through the ſkin and muſcles, down to the bone; which was the occaſion of the muſcles retracting, the bone protruding, and of the cure being ſo tedious as to prove highly injurious to the patient's conſtitution. It has been performed on various parts, principally on the thigh and leg, and was lately revived above the ankle: but the following improvements in amputation having taken place, viz. double inciſion, diſſecting up the teguments, preſerving the cellular membrane in parts thinly covered, ſeparating the muſcles from the perioſteum after the ſecond inciſion, and healing by the firſt and ſecond natural proceſs, have rendered this mode of operation nearly uſeleſs.

The manner in which it has been directed on the thigh, is as follows: The teguments being drawn up tight by an aſſiſtant, the whole extent of the flap is to be marked out with ink; from the baſe of which

which to the rounded end may be from three to four inches in length, and its breadth in proportion to the probable width of the ſtump. Theſe limits being properly adjuſted, the operator, ſtanding on the outſide of the limb, enters a ſharp-pointed, double-edged knife, at the outward baſe of the mark, and puſhes it through the teguments, cloſe to the bone, in a line for the mark on the oppoſite ſide; then bears the edge along the line drawn on each ſide of the thigh, raiſing it upwards towards the *end* of the flap, which, for the better union with the under ſection, ſhould be rounded off. The flap being held up by the aſſiſtant, an inciſion is to be made from underneath, through the other part of the integuments and muſcles, at about an inch below the place where the bone is to be ſawed; and the muſcles are to be ſeparated from the bone up to that part, with the point of the knife in the round. The retractor and the ſaw are then to be uſed as in common; and after having fully ſecured the arteries with ligatures long enough to hang out at the edge of the wound, the flap is to be ſponged clean, placed regularly over the ſtump, ſecured with three or four interrupted ſutures, and dreſſed with a pledget of cerate, ſoft tow, croſs cloth, and proper bandage. On the third or fourth day the ſutures are to be removed, and the dreſſings to be renewed, and the open parts are to be held together with ſlips of ſticking-plaſter.

Practitioners thought it beſt at firſt to dreſs the flap ſeparately, and to place ſoft lint between that and the ſtump for ſeveral days, then to lay the raw ſurfaces down regularly cloſe together, confine the edges with ſticking-plaſter, and to apply the uſual dreſſings with proper bandage.

The other parts of the limbs were alſo operated upon on the ſame principles.

DIS-

DISORDERS OF PARTICULAR PARTS.

INJURIES OF THE HEAD.

Fiſſures, Depreſſions and Fractures of the Cranium. Theſe are ſometimes to be ſuſpected, from the vehemence of ſymptoms which uſually attend thoſe injuries, after blows or falls, although free from wound, or external appearances. Bleeding at the ears, ſtupor, and loſs of voluntary motion, are ſtrong indications of extraordinary hurt being done to the cranium. In every ſuch caſe, ſcalping and trepanning are poſitively ordered; in ſhort, whoever deviates from this given rule, ſubjects himſelf to the moſt ſevere cenſure. The operation is even recommended by great and reſpectable authorities, in violent blows on the head, unaccompanied with either fracture, fiſſure, or depreſſion; with a view of giving vent to any extravaſated blood or fluid, that may be ſuppoſed to lie between the cranium and the dura mater.

Notwithſtanding which, ſome gentlemen of eminence in the profeſſion, who have not ſtrictly conformed to the written proceſs, are able to teſtify, that many perſons, who have received the moſt violent injuries on the cranium, have been perfectly recovered by the free uſe of the lancet and antiphlogiſtic treatment only. An experienced country practitioner and a bold operator has ſeveral times diſobeyed this abſolute injunction, and has it in his power to produce living teſtimonies of his ſucceſs, which would ſtagger the faith of the warmeſt advocate for the uſe of the trepan.

The author of this publication pleads guilty to the charge in ſeveral inſtances of fractured ſkulls, all of which did well. One was in the left parietal bone, with moderate ſymptoms, who recovered with no other operation than removing the bruiſed

and

and jagged part of the ſcalp down to the bone. Bleeding twice, and Dover's powder, after a previous immerſion in the warm bath, as preſcribed by the late ingenious Mr. Bromfield; afterwards, nitrous medicines, laxatives, and enemas, with ſlender diet and diluents, were adminiſtered.

Another was a fracture on the poſterior and inferior part of the os temporis, cauſed by a violent blow from the beam of a malt-mill; in which a looſe piece of the ſquamoſe part of the bone, not ſo large as the thumb nail, was removed with the forceps. It may be remarked, that this patient was totally deprived of his ſenſes and voluntary motion till the twelfth day, and that no one was preſent at the time of his receiving the blow; alſo, that no external indications of injury could be perceived on the ſide which was fractured: in fact, the ſkin on the oppoſite ſide of the head being ſlightly raſed, induced every one preſent to ſuppoſe that the principal hurt was in that part; but upon ſtricter examination, and obſerving a much greater degree of agitation and groaning in the patient when violent preſſure was applied to the unſuſpected ſide of the head, than from an equal trial on the oppoſite part, it was determined to ſearch there for the injury; and the event proved the propriety of doing ſo.

The third was a fracture in the os frontis, juſt above the orbit of the eye, wherein no very alarming ſymptoms appeared.

The other two inſtances were on the frontal and the left parietal bone; both which were treated after the ſame way, and did perfectly well.

Two other caſes of fractures in the cranium alſo came under his immediate care and management; in one of which, a great part of the occipital bone was removed, with the aſſiſtance of the trephine, the injury having been ſo violent as to force three pieces in upon the dura mater. The patient was truly athletic, and the ſymptoms were highly inflammatory;

tory; he was bled three times, had glyſters repeatedly, and took the diaphoretic drops with a cool regimen. The other inſtance was a fracture and ſlight depreſſion on the parietal bone, with moderate ſymptoms. Twelve ounces of blood were drawn from the arm ſoon after the accident, and one perforation was made which diſcovered the dura mater to be quite pale and ſound. The firſt of theſe two inſtances did well; the laſt grew bad in a few hours after the operation: the patient was ſeized with rigor, fever, delirium, and every ſymptom of inflammation; and, in ſpite of every neceſſary effort, died on the fourth morning. Upon examination, no one thing particular appeared on the brain which could be ſuppoſed the cauſe of ſo ſudden and violent a change. This event, and a circumſtance of like nature happening at no great diſtance from him, much about the ſame time, emboldened the writer to omit the operation in the firſt inſtance here mentioned, which occurred about a twelvemonth after; and he has purſued the ſame means ever ſince, except where the bone was much ſhattered and driven in.

Since the firſt edition of this book, in which the above particulars were enumerated, the author's opinion and practice have been confirmed in four inſtances of extenſive fracture in the parietal and frontal bones, that were under his immediate direction; from all which inſtances, he thinks himſelf authorized to declare, at leaſt, that the operation is not ſo generally neceſſary as it is declared to be; more eſpecially when "no external mark points out the ſeat of the injury." The principal call for the trephine is, when the ſymptoms are ſo oppreſſive, and continued as to denote great injury on the internal parts, or when the depreſſed or ſhattered parts of the ſkull do violence to the meninges, or ſubſtance of the brain.

The indications of internal miſchief from blows

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on the head, where there appears to be neither fracture nor depreſſion, are, the pericranium being detached and puffy, and painful ſymptoms ſupervening; pain, drowſineſs, &c. going off and returning a few days after the injury has been received, together with a quick tight pulſe, and repeated ſhiverings; a ſanious matter being at the ſame time diſcharged from the wound, and the puffy part being very ſore and tender. The cauſe of ſuch complaints is ſaid to proceed from the circulation between the pericranium and dura mater being interrupted; from the veſſels of the latter membrane being detached; and from preſſure occaſioned by extravaſated blood: under which circumſtances, inflammation and putrefaction are to be expected; and therefore, in every ſuch caſe, the operation is ſtrictly enjoined. Admitting all theſe cauſes and effects, is it not probable that venæſection, duly performed, together with the diaphoretic and antiphlogiſtic remedies, will anſwer every intended purpoſe, independent of perforation, in the early ſtage of the diſorder; and in the latter period, that the bark and antiſeptics would be much more likely to ſucceed?

When the force of a blow is ſufficiently violent to cauſe extravaſation, depreſſion, or fracture, is it to be expected that the extravaſated blood will be confined to a particular ſpot, or extend but a little way round? Can it be ſuppoſed that the fluid will be wholly diſcharged by the perforations commonly made upon ſuch occaſions? And further, if inflammation be, in conſequence of preſſure from extravaſated blood, how would it be poſſible to prevent that effect in more diffuſed extravaſations, by a partial operation? At the ſame time, it may be aſked, what becomes of the blood which cannot find its way through the opening?

To expoſe the dura mater, or any membranous part that is naturally concealed, is not a matter of indifference; it commonly produces or increaſes

mation, and ſometimes terminates in maturation or gangrene. When, therefore, the ſymptoms that occur from the accident are moderate, and the injury done to the cranium is not complicated, the method recommended by Mr. Blomfield, and the antiphlogiſtic treatment, which conſiſts of venæſection, diaphoretic, cooling and aperitive medicines, with diluent drinks, are moſt likely to ſucceed. That eminent practitioner adviſed as follows: Venæſection, a ſtool or two to be procured by glyſter, or ſome gentle aperient, and the warm bath, as preparatives; then give a doſe of Dover's powder. He ſays, that every ſymptom of concuſſion generally goes off on the powder producing a copious ſweat; and adviſes the patient to lie between blankets during the proceſs, and afterwards to keep up a gentle diaphoreſis, by continuing the uſe of the powder, or ſome medicine of that claſs, ſuch as antimonial or ipecacuanha wine with tincture of opium, and to repeat bleeding according as ſymptoms, or the nature of the habit may require, until the danger is over.

The ſeveral inſtances of ſucceſs which have followed this mode of treatment, do ſurely warrant the practiſe when no very violent oppreſſive ſymptoms occur. No one can ſuppoſe that ſuch means, although they have been attended with all deſirable ſucceſs in very bad caſes, ſhould be truſted to, when the bone is greatly ſhattered and depreſſed; more eſpecially when a part of it is ſtruck in upon the dura mater. When matter is diſcovered upon or beneath that membrane, perforations with the trephine are ordered to be repeatedly made according to the courſe of its ſtream, and we are directed to give vent to it by puncture of that membrane: the rule, as to puncture, is certainly adviſeable; yet, in the other caſe, it may be as ſafe to operate rather ſparingly.

Moſt authors adviſe a ſtrict ſearch after the uttermoſt extent of the fracture in every direction, and per-

perforations to be made in proportion thereto; but let it diverge ever ſo much, experience has proved to thoſe who are not ſo ſanguine in favour of the operation, that the ſkill of the ſurgeon is chiefly wanted to relieve the membrane from depreſſed pieces, which, when the fracture is irregular, may require two or three perforations.

One general maxim ought to be obſerved in this and every other diſorder where cavities are concerned, to expoſe membranous parts naturally concealed as little as poſſible: and this is not only adviſeable to prevent inflammation, but, in weak and vitiated habits, to obviate a continued efflux of matter, which, in ſpite of every effort to the contrary, too often demoliſhes the patient.

Theſe ſtrictures are not meant to deny the neceſſity of the operation, but to caution the young ſurgeon from yielding too implicitly to the practice of it. In blows of the head, which have deprived the ſufferers of their ſenſes at the time when received, ſucceeded by pain, and a languid dull inactivity, it was a maxim with ſome practitioners to lay the bone bare; and although, upon ſtrict ſearch, neither fracture nor depreſſion can be diſcovered, to proceed directly to perforation; yet though they may plead great authorities, ſuch conduct cannot be generally vindicated. Why ſhould they ſo readily fly to an operation which might be diſpenſed with, by the application of leſs violent means? Such are venæſection, according to the nature of the habit and violence of the ſymptoms, repeatedly adminiſtering the diaphoretic powder or drops, occaſional glyſters, and the like. Beſides, proofs are not wanted, of recovery from much more violent injuries, without perforation.

The following ſhort account is given, as a proof that blood may lodge in quantity on the brain; that it is not always productive, by preſſure, of inflammation, ſuppuration, or ſanies; and further, that,

notwithſtanding ſuch lodgment, the mental faculties may continue in full force.

A perſon of a ſanguineous habit was ſeized with an apoplectic fit, from which he ſoon recovered. Five years after he was again attacked, and died ſuddenly. The head was opened, and much freſh blood was diſcovered in the left lobe of the brain; between its convolutions were found ſeveral lumps of concreted blood, one pretty large, which had loſt its red colour; all which moſt probably proceeded from a ruptured veſſel in the former attack. This perſon had been many years ſubject to ſevere head achs, for relief of which he now and then loſt ſome blood from the arm. Between the two attacks, his head-ach was attended with giddineſs, which occaſioned a more frequent call for the lancet; notwithſtanding which, he tranſacted much buſineſs in the mercantile line, and took long journies on horſeback.

A material diſtinction is to be obſerved in the ſymptoms and treatment of injuries ariſing from concuſſion, and thoſe from internal contuſion; or, as it is more generally underſtood, compreſſion. The ſymptoms attending concuſſion, which appears to have a more immediate effect on the brain and nervous ſyſtem, are, a round, ſoft, and ſlow pulſe; a general debility and inertneſs over the whole frame, a deep ſleep, and ſilent breathing, together with little or no contraction of the pupil on the eyes being opened againſt a ſtrong light.

The marks of internal contuſion, which more immediately affects the membranes of the brain, and from which inflammation is moſt likely to take place, are, a full, hard, and quick pulſe, an oppreſſed reſpiration, reſtleſſneſs and toſſing about the limbs when rouſed, and a lively contraction of the pupils.

In the former caſe, bleeding ſhould be cautiouſly repeated; a moderate doſe of Dover's powder, or the

diaphoretic drops, may be now and then adminiſtered, and an enema, or a gentle laxative occaſionally. Afterwards, if debility continue, wine, bark, and opium will be neceſſary; whereas the inflammatory kind requires repeated bleedings and evacuants, according to the violence of the ſymptoms and ſtrength of the conſtitution; alſo diaphoretics and nitrous medicines. A tight riſing pulſe, and firm craſis of blood, are the moſt certain indications of repeated blood-letting.

The operation of trepanning is to be performed after the following manner; the head ſhaved, and the patient being ſeated upright, or placed on a bed, or table, and properly ſecured by aſſiſtants, ſo that the head may be kept in a ſteady poſture oppoſite the light; make a ſemi-oval inciſion according to the nature or extent of the fracture, or contuſion of the integuments, with a round-edged knife, through the ſcalp, and diſſect it off; then remove as much of the tendinous expanſion and perioſteum as is neceſſary, till the bone is bare.

The bone being ſufficiently expoſed, and the hæmorrhage ſuppreſſed, fix the perforator to the handle, and make a ſlight entrance at ſuch a point of the fractured part as will admit of the ſaw taking in a portion of the ſhattered and depreſſed bone; then removing that inſtrument, fix the crown-ſaw with the pin, in the hole made for its reception, and twiſt it circularly till the teeth are fairly entered; after which withdraw the pin, and work the ſaw briſkly till it reaches the diploe, now and then cleanſing the teeth of the ſaw, and the groove in the bone, with a tooth-pick and bruſh. In ſome parts there is no diploe to be found, in which caſe it is proper to proceed with greater caution, frequently ſounding the depth and equality of the groove with the tooth-pick, and bearing the ſaw hardeſt upon that part of the bony circle which looks whiteſt, and gently where it has a blueiſh caſt. When the latter

appears, move the ſaw with great caution, for fear of wounding the dura mater, till the piece of bone grows looſe, then endeavour to remove it by a circular twiſt with the forceps, and ſmooth the bony edge with the lenticular, removing ſuch little pieces as may lodge in or upon the dura mater. If that membrane appear denſe and diſcoloured, as if blood and matter were confined beneath it, an inciſion muſt be cautiouſly and gradually made through it with the back-edge of a lancet, ſo as to form an opening ſufficient to give vent to the contents; taking care to avoid the arterial branches, whoſe courſe is moſtly to be diſcovered by their pulſation.

In the performance of this operation, ſome have recommended the trephine, others the trepan; the handle of the former is like that of a common gimblet, and by far the moſt handy; the latter has the form of a joiner's whimble, admits of greater expedition, but is not ſo manageable at the latter part of the operation.

It may be remarked, that ſome parts of the ſcull are not ſo eligible to operate upon as others; for inſtance, along the ſagittal ſuture, and down to the noſe, on account of the ſinuſſes and the ſpine of the os frontis. The bony ſinuſſes near the orbits of the eye, and the greateſt part of the occipital bone are alſo exceptionable; yet in compound fractures, when the bone is much ſhattered, or drove in, it is the buſineſs of the ſurgeon, let the hurt be where it may, to relieve the injured membrane, and carefully to remove ſuch a portion of bone as will afford vent to conſequent diſcharges.

After the uſe of the trephine, the moſt proper dreſſings are, dry ſoft lint lightly applied, or in caſe the parts are dry, thinly ſpread with white cerate, to be repeated according to the nature and quantity of the diſcharge, afterwards as an inciſed wound. Greaſy and ſpirituous applications are ſeldom

dom uſed; a ſolution of myrrh in barley-water, ſoftened with honey of roſes, is commonly applied with a ſoft pledget of lint to the dura mater, when that membrane is injured. Sometimes a fungus riſes from it, which if not reſtrained in due time by lunar cauſtic and a proper degree of compreſſion, is apt to increaſe conſiderably, and may require to be removed with the knife, but this is ſeldom neceſſary to be done, except from bad management.

Meſſrs. Minors and Jones, in a caſe recorded by them, have proved the utility of preſerving the ſcalp, and laying it down in immediate contact with the dura mater, and healing by adheſive inflammation.—Vide Minors's Hiſtory of Trepanning. The operation was performed as free from angular points as poſſible, after the following manner.

A ſimple inciſion was made through the principal part of the wound, five inches in length, agreeably to the direction of the fracture, down to the perioſteum; and the ſcalp was cloſely diſſected up on each ſide, ſo as to make room for the application of the trephine. In a fracture of a large extent, a farther dilatation may be made by a tranſverſe ſection of one of the lips of the inciſed wound, beginning from near the central point of that lip which covers the greateſt part of the fractured bone. After the bone had been carefully removed, and the dura mater well ſpunged, the inner ſurfaces of the flaps of the ſcalp, the pericranium, and the dura mater, were all lightly moiſtened with a ſpunge dipped in warm water, and the whole of the ſcalp was laid as appoſite as poſſible over the denuded parts, and the edges retained cloſe to each other by long and narrow ſlips of plaſter, over which were applied a ſoft pledget of fine tow, ſpread thin with yellow cerate, a ſoft compreſs, and a ſix-tailed bandage. Other caſes have been attended with like ſucceſs, for ſome of which, vide London Med. Journal,

vol 5 and 7; alſo Mr. Blount's Caſe, London Med. Memoirs, vol. 3.

DISORDERS OF THE EYES.

OPHTHALMIA.

DESCRIPTION. Inflammation of the eyes generally begins with redneſs in the tunica conjunctiva, commonly called the white of the eye; the eye-lids ſwell at their edges, the eye is hot, ſtiff, and dry, and is troubled with an uneaſy pricking ſenſation, as if dirt was lodged between that part and the lid, and the acceſs of light and air gives great pain; ſometimes the membranous appearance of the conjunctiva is loſt, and the complaint reaches the ſclerotica, and the deeper-ſeated tunics.

The inflammation is attended with more or leſs pain, and is of greater or leſs moment, according to the depth it reaches to. When light is intolerable, and acute pain darts through the head and temples, the internal coats and the retina are moſt probably affected. The dryneſs of the eye is moſtly ſucceeded by a profuſe flow of hot, thin, acrid fluid, which frequently excoriates the neighbouring parts, and turns purulent. When the eye-lids are much affected, a diſcharge of viſcid gummy humour is apt to cloſe the lids, particularly towards morning. The inflammation and pain increaſing, the veſſels of the external coats become extremely turgid, fever, and its train of ſymptoms occur, and ſuppuration is ſometimes the conſequence, though very rarely, except from violent injury or morbid affection. A thickneſs and opacity in the membranous parts, or humours, are the more common conſequences. This diſeaſe then is either primary or ſymptomatic.

CAUSES.

CAUSES. Ophthalmia proceeds from blows, wounds, extraneous bodies fixed in the coats of, or lodged between the eye and eye-lid, from too great light, intenſe heat or cold, piercing winds, lucubration, habitual drunkenneſs, rheumatic, venereal, and ſcrofulous affection, ſmall-pox and meaſles.

CURE. Bleeding is generally preſcribed, and ſhould be repeated according to the degree of inflammation, pain, and fever. When the pain is acute, deep ſeated, and formidable, it is recommended to open the temple artery, or external jugular; but except in very particular caſes, the common mode of blood-letting will anſwer every neceſſary purpoſe. Leeches, applied repeatedly at a moderate diſtance from the exterior angle of the eye-lid, are beneficial, and ſometimes blood is drawn with the point of the lancet from the turgid veſſels of the eye. Bliſters behind the ears, and between the ſhoulders, will divert the inflammation, and are ſaid to be very beneficial when applied to the temples, upon the part where leeches have juſt performed their office, immediately after the bleeding has ſtopped.

In the inflammatory kind alſo, cooling remedies and regimen are highly neceſſary; and a pill, with two or three grains of calomel, the ſame quantity of camphor, and about a third, or if much pain, half a grain of opium, for two or three ſucceeding nights, followed by a gentle laxative, and occaſionally repeated, have been of great uſe both in the early and latter ſtage of the diſorder. In obſtinate and chronic caſes, perpetual bliſters, ſetons, iſſues, and cauſtics behind the ears, have been particularly uſeful. Conſtitutional cauſes muſt have relative treatment.

Various external applications have been uſed for this complaint, but none ſo much of late as Goulard's ſaturnine water, cold; both in the form of a lotion,

lotion, and braided into a poultice with the crumb of white bread. The ſtimulus of the hot acrid diſcharge may be much allayed, by applying the pulp of a rotten apple. When there is much tenſion and dryneſs on the part, a lotion, with infuſion of chamomile flowers and milk juſt warm, or a ſlight decoction of poppy heads, may be ſerviceable; but the thebaic tincture of the London Diſpenſatory, made with mountain wine, as particularly recommended in a late ingenious publication by Meſſrs. Wathen and Ware, is an excellent topical remedy. Two or three drops of it are ordered to be dropped into the eye once or twice a day, or to be applied on the point of a camel-hair bruſh. It occaſions a ſharp pain at firſt, and a great flow of tears, which, gradually abating, the eye is left in a much eaſier ſtate than before the application. It will be neceſſary to defer its uſe in ſome habits, till the exceſſive irritability and inflammation of the parts have been leſſened by proper evacuants and cold applications.

When the eye-lids are gummy, or inclined to hang together, moſt probably their edges are ſlightly ulcerated; to prevent ſuch adheſion, a ſmall portion of bland unguent, or of the unguentum citrinum of the Edinburgh Diſpenſatory, may be placed between them at bed-time, which ſhould be waſhed off with milk and water the next morning. This ulceration is a frequent cauſe of opthalmia. Bates's camphorated water, properly diluted, is an excellent guard againſt relapſe, both to the eye and eye-lid, after inflammation has been removed; it is much recommended by men of experience, before-mentioned, and is prepared as follows:

Roman vitriol, and armenian bole, each one dram; camphor powdered, with a drop or two of ſpirit of wine, half a dram; make them into a powder. Throw a dram of this powder

powder into a pint of water whilſt it is boiling, then remove it from the fire, and ſet it by, for the fæces to ſubſide.

A dram of this ſolution, mixed with two ounces of cold water, may be uſed as a lotion.

Every inflamed eye ſhould be defended from the effects of heat and cold, and be ſhaded from the light; the beſt contrivance for which purpoſe is a paſteboard-hood, lined with green ſilk. In dangerous caſes, particularly when the eye is wounded, and when the internal membranes are much affected, the patient muſt ſubmit to confinement, in a cool room, where little or no light enters. The practice of binding down the eyes with cerate, compreſs, and bandage, is highly injurious.

Inflammation of the eye, or eye-lid, from a conſtitutional cauſe, requires medicines calculated for the removal of the original complaint, together with local treatment. When it proceeds from blows or wounds, the moſt neceſſary applications are, the ſaturnine water, poultice, and cerate; with bleeding, laxatives, and opiates.

If duſt, grit, or any extraneous body adhere, or is fixed to any part of the eye, ſo ſtrongly as not to yield to the uſe of an eye-cup, or to the ſtream from a ſyringe, it ſhould be ſeparated by a blunt-pointed director, or with the point of a lancet, otherwiſe ſuppuration around the part will be the unavoidable means of producing its exit.

Speck on the Cornea. This complaint is alſo called *Albugo*, *Leucoma*, and *Nebula*. It is a thickneſs or abſceſs in the different lamellæ of that membrane, and is chiefly the effect of inflammation; it derives its conſequence from its ſize, depth, and ſituation, with reſpect to viſion. The pearly ſpeck is projecting, and proceeds from ſome kind of ſore on the cornea; it frequently follows the ſmall-pox. This kind requires to be opened with the lancet or couching needle, in order to diſcharge the matter, and prevent

prevent its eroding the whole ſubſtance of the tunic. In this ſpecies the projecting part will require to be touched with eſcharotics, or medicines of the aſtringent kind, as preſcribed in the preceeding ſtate of the complaint, ſuch as Aq. ſappharina, a weak ſolution of white vitriol and verdigreaſe, Bates's lotion, and ſometimes a ſolution of corroſive ſublimate has been carefully and effectually uſed.

The cure of the *dry ſpeck*, or thickneſs of the cornea, has been brought about by various remedies; levigated glaſs, ſugar, with a very ſmall portion of calomel, tutty, and ſcuttle ſhell, finely levigated, blown through a quill, and mixed with the ſimple ointment, or made up in the form of a lotion; and when it ariſes from a venereal, ſcrofulous, or rheumatic diatheſis, a mild mercurial courſe by friction with bark, or calomel and cicuta; the mercurial ſolution muſt be purſued.

The above remedies have often removed ſpecks, but do not always prove effectual, eſpecially when the diſorder has pervaded ſeveral laminæ. The projecting ſpeck has been ſometimes ſafely removed with a thin double-edged ſcalpel, but it is an operation that requires the niceſt care and circumſpection, and a very ſteady hand. A late celebrated itinerant failed in this operation, by attempting the removal of a deep-ſeated ſpeck: the edge of the knife was ſet off too deep, and a circular hole was made in the cornea, through which the aqueous humour was immediately diſcharged; unfortunately for the patient, great inflammation enſued, and the whole of the eye ſuppurated. The Doctor decamped on the third day, and left the cure to chance, after having received a generous fee. Such men are too apt to undertake impoſſibilities, and impoſe upon the misfortunate, and their too credulous relatives.

Ulcers and Excreſcences on the Eye. They are produced from various cauſes, and are of more or leſs con-

conſequence, according to the part ulcerated, and the general ſtate of the habit. External injuries, inflammation and ſuppuration, venereal and ſcrofulous taint, and ſmall pox, are general cauſes. The beſt local treatment, after inflammation, is, touching them with a camel-hair bruſh dipped in camphorated vitriolic water, diluted in proportion to the ſenſibility of the part; or a weak ſolution of corroſive ſublimate in water, ſuch as one grain to three or four ounces, particularly if the edges riſe.

Should fungus grow up, lunar cauſtic may be cautiouſly and repeatedly applied; taking care to keep the eye open with a ſpeculum, and to waſh it off with a ſmall hair bruſh dipped in warm milk, before the eyes are ſuffered to cloſe. It may alſo be removed with the ſcalpel. The beſt method of extirpating large excreſcences, particularly when the baſe is broad, is to paſs a ligature through the middle, with which the tumour may be raiſed and fixed more ſteadily, and carefully to diſſect it off with the common ſcalpel. Pendulous tumours and excreſcences have been ſucceſsfully extirpated by ligature.

A ſlight ſolution of gum myrrh in lime-water, has been uſeful in drying up and reſtraining looſe fungus in other parts; perhaps, if applied early, it might have the deſired effect in this caſe, properly ſuited to the ſenſibility of the part. A continued uſe of the lunar cauſtic, after the manner before deſcribed, has lately proved effectual in deſtroying a large growing fungus ſeated near the internal canthus.

Encanthis and Membranous Expanſion. This is a flattiſh expanded membrane, which ſhoots out from the external canthus of the eye, and ſpreads like a thick web over great part of the eye-ball: it is of a reddiſh or paliſh yellow colour, and when inorganic reſembles a finger-nail, and ſeldom proceeds further than the edge of the cornea: the latter does not

ariſe from inflammation, is not therefore ſo injurious in its nature, or ſo likely to ſpread over the point of viſion as that which does; and requires little to be done, except waſhing it with aſtringent lotions. This complaint does not always take its riſe from the ſame part. In ſlight caſes, proceeding from inflammation, the beſt applications after that is removed, are of the vitriolic, aluminoſe, and ſaturnine kind, made agreeably to the irritability of the diſeaſed parts. Eſcharotics are both dangerous and ineffectual; repeated ſcarifications, and afterwards, ſaturnine or reſtringent ſolutions, with neceſſary precaution againſt inflammation and adheſion, have been attended with ſucceſs. Should viſion be irrecoverably loſt, and the tumour be hard, livid, and painful, and likely to degenerate into cancer, extirpation of the eye may be requiſite.

Abſceſs within the Eye. Internal inflammation will ſometimes produce a purulent kind of matter, which diffuſes itſelf throughout the cavity of the eye, and mixes with the aqueous humour; the eye-ball is enlarged, and viſion is totally obſtructed: ſevere pain and feveriſh ſymptoms are the conſequences, and the eye, if not timely opened, will burſt of itſelf. This abſceſs moſtly ariſes from external injury, and like other ſores, requires to be opened in the moſt prominent part, and the purulent contents ſhould be gently preſſed out. When the complaint is of that nature that the iris is particularly diſeaſed, and forced againſt the cornea, it is termed *Staphyloma*, from a grape-like appearance. When the collection of purulent matter lies in the anterior chamber of the eye, and diſtends the cornea only, it is called *Hypopyon*. This complaint begins and continues with pain in the eye, although not to the degree of the former diſorder, being principally confined to one part of the eye: the contents are to be diſcharged by a moderate opening made at the inferior part of the cornea, a line or two from the tunica conjunctiva.

tiva. After the matter has been evacuated, the beſt applications are compreſſes wetted with Goulard's ſaturnine water and the cerate: a cool regimen muſt be obſerved.

Dropſy, or Water in the Eye. The eye is liable to be diſtended, and even to burſt, from an extraordinary quantity of watery fluid collected therein. This diſeaſe begins with a ſenſe of fulneſs in the part, and the eye imperceptibly grows bigger; viſion in the mean time gradually declines, and in proceſs of time is entirely loſt; the cornea protrudes greatly, and, if not timely opened, will burſt.

Before the globe of the eye is diſtended to ſuch a ſize as to deſtroy the power of viſion, tapping the part may be a means of recovery. It is to be performed by paſſing the end of a ſharp-pointed round inſtrument, not thicker than the blunt end of a common probe, and fixed to a long handle, into the moſt depending part of the eye-ball, juſt behind the iris, as practiſed in couching. The ſhape and look of the eye, at leaſt, will be better preſerved, by not deferring the operation too long; bracing medicines, both external and internal, ſhould be afterwards uſed.

Blood within the Eye. The cavity of the eye, from external injury, is ſometimes diſtended with blood, in ſuch quantity as to render the aqueous humour opaque; and when this extraneous fluid is not likely to be abſorbed, and the ſight continues to be obſtructed, it becomes neceſſary to operate as for the extraction of the cataract. The aqueous humour paſſing away with the blood, will give the eye a diminiſhed appearance, but it will be reſtored to its natural ſtate ſoon after the wound in the cornea is healed.

Diſplaced Eye-ball. The globe of the eye may be driven from the ſocket by external violence, and thruſt forwards by tumours or abſceſſes formed within the orbit. In caſes of this nature, the optic

nerve is very likely to receive injury, by being overſtretched or compreſſed. Two extraordinary caſes of diſlocation are related by two eminent men in the profeſſion, which prove that viſion is not neceſſarily deſtroyed; the one inſtance was a diſlocation by violence, the other by a large ſcirrhous tumour. Vide Caſes in Surgery, by Mr. Warner, and by Mr. White, of Mancheſter.

If cauſed by violence, the part ſhould be replaced as ſoon as poſſible; if abſceſs be the cauſe, the contents ſhould be diſcharged, and the cyſt be at leaſt partly removed; if it be occaſioned by an excreſcence or indurated tumour, extirpation of the diſeaſed part will be neceſſary. Tumours of a conſiderable ſize may be removed with no great difficulty, and with perfect ſafety as to hæmorrhage. The operation appears formidable and excites horror; but many a life has been loſt for want of proper reſolution. In ſuch caſes every precaution ſhould be taken to prevent inflammation.

Scirrhous, or Cancerous Eye-ball. When the diſeaſes of the eye itſelf degenerate into ſcirrhus or cancer, extirpation becomes abſolutely neceſſary; and the earlier in the diſeaſe it is performed the better. In doing which the following method is to be purſued: The patient, aſſiſtant, and ſurgeon being properly ſtationed, let the eye-lids be ſeparated as much as poſſible. If the eye be prominent, the ſurgeon may take hold of it with his fingers; otherwiſe, a broad ligature is recommended to be paſſed rather beyond the centre, through the body of the tumour, with which it may be conveniently drawn forth by the ſurgeon, who, at the ſame time, is to diſſect out, with a common ſcalpel, every part of the ball from the ſocket. The hæmorrhage is moſtly to be ſtopped with lint and flour, but, if neceſſary, may be readily checked by ſlightly touching the veſſel with the actual cautery. The whole of the orbit is to be filled with lint, and a bandage, if neceſſary,

may

may be made, rather tight, over all. Light and eaſy dreſſings are afterwards to be applied, and care ought to be taken to prevent the growth of fungus, to check inflammation, and to relieve pain with opiates.

Artificial Eyes. Great ingenuity has been diſplayed in forming and fixing theſe ſubſtitutes: thoſe which were ſold ſome time ago by Mr. Watſon, Coverley-fields, Mile-end, were fabricated upon an improved plan, and could be worn with the greateſt eaſe and ſafety. Such inſtruments are moſt likely to anſwer the intent, where a muſcular part of the eye is left.

CATARACT.

Description. The cataract is a diſeaſe abſolutely confined to the cryſtalline humour, attended with diſcolouration, and more or leſs opacity. Cataracts have been variouſly diſtinguiſhed, and many falſe ideas have been formed about their conſiſtence, from their colour. The grey, wheyiſh, or blueiſh coloured, were formerly conſidered as looſe and ſoft, the white as hard, &c. of which the contrary has been often proved. But at this time of day, colour is not looked upon as a proof of their conſiſtence. Every cataract alſo, which, from the above miſtaken principle, was ſuppoſed to be ſoft, was thought to be unripe; and the contrary. The moſt probable conjecture about conſiſtence, may be formed from the following obſervations:

When the pupil remains in a ſtate of dilatation, notwithſtanding it is expoſed to a ſtrong light, the cataract moſt commonly proves ſoft; on the contrary, when capable of perfect contraction, the diſeaſed part is generally more firm and reſiſting.

It is worthy of remark, that the external part of the cryſtalline lens, in its natural ſtate, is ſofter than its internal, and ſome of the moſt experienced perſons are of opinion, that it commonly grows ſofter

in the diſeaſed ſtate. They alſo notice a mixed cataract, which is found to be ſofter externally, and firmer in the centre than in the natural ſtate, and that ſometimes the whole of the cryſtalline will be diſſolved into an uniform fluid of a jelly-like conſiſtence.

The notions, then, reſpecting colour, conſiſtence, and maturity, are too viſionary to be regarded. Opacity is alike the conſequence; and ſucceſs has proved, that as ſoon as the humour becomes entirely opake, the operation may be properly undertaken in every ſtate, except when the diſeaſe is attended with adheſion to the iris, or an affection of the retina.

It ſometimes happens that the cataract adheres to the iris ſo firm as to render it immoveable. This may be diſtinguiſhed by ſhutting the patient's eye, and rubbing the eye-lids; afterwards, upon opening them ſuddenly againſt a ſtrong light, the pupil will be ſeen to contract, provided there be no adheſion. A few caſes, wherein the adheſion was ſlight, have been operated upon with ſucceſs: but ſhould the retina be affected, blindneſs will remain after the cataract has been depreſſed. The ſtate of that membrane may be aſcertained from the inſenſibility of the iris to the rays of light. The black cataract, as it has been called, and deſcribed by authors, wherein no diſeaſe is ſaid to appear, and where the pupil looks black, as in the natural ſtate of the eye, is moſt probably the amauroſis, or gutta ſerena. Cataracts may be divided into three kinds, the ſoft or floating, the mixed, and the firm or hard.

Causes. The cataract may be ſuppoſed to take its riſe from inflammatory diſorders of the head and eyes, occaſioned by external injury, or internal defluxion. Scrofulous habits are more particularly ſubject to it.

Cure. Previous to an account of the operations

for the cataract, it will not be amiſs to remark, that the ſoft cataract, if the capſula be freely divided, will mix with the aqueous humour, and be gradually diſſolved; that the firmer parts of the mixed kind, when they have baffled every attempt to depreſs, may alſo be left to diſſolve; and that in endeavouring to depreſs the firmer kind of cataract, even when having paſſed through the pupil it lodges behind the cornea, and no particular injury had been done to the parts within, the cryſtalline has gradually diſſolved and diſappeared, to the recovery of viſion.

Provided the cataract be not complicated with any other affection of the eye, and that neither of the eyes be poſſeſſed of a tolerable degree of ſight, the operation may be performed either by depreſſion or extraction. The method of depreſſion, or *couching*, as it is commonly called, is as follows:

The patient being ſeated in a proper light, upon a ſtool of convenient height, let a pillow be placed between his back and the breaſt of an aſſiſtant, ſo that the patient's body be bent rather forward, and the head be inclined on the breaſt of the aſſiſtant: cover the other eye, and let the upper lid of the eye which is to be operated upon be raiſed up and kept ſo, by preſſing it ſtrongly againſt the ſuperior part of the orbit, whilſt the operator depreſſes the inferior lid. This being done, the patient ſhould be directed to incline the eye towards the noſe; then let the couching needle, with the flat ſurface towards the iris, be ſtruck through the tunica conjunctiva, at a very little diſtance from the edge of the cornea, and in a line with the middle of the pupil, paſſing it cautiouſly forward till it appears behind that opening; then gently endeavour to depreſs the cataract with the flat ſurface of the needle, carrying it with the point towards the outward and back part of the eye. Should the cataract riſe

again, move the needle carefully towards the under part of it, and gently try to raiſe it up, ſo as to diſlodge it from its bed in the vitreous humour. If the cataract be mixed or firm, divide the capſula, and depreſs again and again; if uniformly fluid, make a free laceration of the capſula, turning the needle about within the body of the cryſtalline, and leave the parts to diſſolve. If, upon dividing the capſula, the contents ſhould ſpread, and mix with the aqueous humour, it will clear again in time, and the operation is as likely to prove ſucceſsful as under any other circumſtance.

The needle ſhould be withdrawn in the ſame direction by which it was introduced. Moſt operators ſpeak in favour of its inſertion with the flat ſurface up and down, by which the coats will be wounded in the courſe of the fibres, and afterwards, turning the edge perpendicular till it is viſible behind the iris; then uſing it as it is required. If the operator ſhould not be ambidextrous, he will find it much more eaſy to uſe the awkward hand by ſtanding behind the patient, and ſupporting the head upon his knee, or againſt his breaſt, than by uſing the beſt contrived inſtrument in an oppoſite manner. The ſpeculum is ſeldom applied.

The proper applications to the eye, which ſhould be kept cloſed from the inſtant that the needle is withdrawn, are, cooling repellents, ſuch as compreſſes dipped in Goulard's ſaturnine water, his cerate, alum curd, and the like. The patient ſhould loſe ſome blood as ſoon as conveniently can be, and ſit upright ſome hours after the operation. He ſhould alſo live abſtemiouſly for ſeveral days, and upon ſuch food as will require little chewing. The body muſt alſo be kept gently open, and opiates may be occaſionally adminiſtered to allay irritability or pain. Some perſons are but little afflicted with inflammation and pain after this operation, others

ſuffer

ſuffer ſevere pains in the head; to remedy which, bleeding in the jugular vein or temple artery, and bliſters, have been found neceſſary.

To extract the Cataract, place and ſecure the patient and his eyelids, as before directed for couching, and deſire the patient to fix his eye ſteadily, looking ſtrait forward, or rather inclining upward: then plunge the point of the knife, ſuited to the purpoſe, into the eye, near to the edge of the cornea; and paſs it carefully and ſteadily between that membrane and the iris, acroſs the centre of the pupil, to the edge of the cornea on the other ſide, exactly oppoſite to where it entered; puſh the point about a quarter of an inch through that part of the cornea, after which move the knife gradually downward, ſo that the lower part of the cornea, between the points at which the knife entered and paſſed out, may be divided at equal diſtances from the iris: during the inciſion, and after the ſemicircular cut has been made, the preſſure, whether by the fingers or ſpeculum, muſt be moderated.

The inciſion being compleated, raiſe up the flap in the cornea with a blunt flat and crooked probe, and carefully paſſing the point of a couching needle, or ſmall probe, through the pupil, make an opening in the tunic of the cryſtalline; after which, force out the cataract by equal and moderate preſſure. Its removal will be much favoured by ſhading the light, which will cauſe a greater dilatation of the pupil. Should the cryſtalline lodge in the anterior chamber of the eye, it may be removed with the ſmall ſcoop contrived for that purpoſe; but it ſeldom happens ſo, unleſs the opening in the cornea is too ſmall for it to paſs: the moſt handy inſtrument for enlarging the opening when neceſſary, is a ſmall pair of probe-pointed ſciſſars.

The operation being finiſhed, dreſs the eye as directed after couching. The patient ſhould be

kept in bed on his back, in a darkened room, and on a low diet, for ſeveral days. Repeated bleedings may be neceſſary; and that operation is thought moſt effectual, when the after-ſymptoms are very violent, if performed in the jugular vein, or temple artery.

M. Pellier, whoſe practice in the extraction of the cataract, is reported to have been particularly ſucceſsful, recommends bleeding in the arm as ſoon as the operation is over; and if inflammation comes forward, directs leeches to be applied near the eye: if the ſymptoms ſhould render further bleeding neceſſary, he prefers drawing it from the foot. He alſo orders pediluvium, Arabic emulſion with nitre, and diluting drinks. When the inflammation is obſtinate, he puts great confidence in dividing the turgid veſſels of the eye and eyelid, and applies pads with alum curd.

He cloſes the eyelids immediately after the extraction of the lens, and covers the part with a dry bag made of ſoft linen rag, half filled with wool, which he gently binds on with a linen bandage round the forehead, and a ſlip of the ſame carried under the chin, and over the top of the head. In favourable caſes, the firſt dreſſing is ſeldom removed till the fourth or fifth day, when the eyelid is cautiouſly liſted up, in order that the part may be gently cleanſed with milk and water: after that time, the bag is gradually leſſened, is applied every other day, and, at the end of three weeks, is relinquiſhed for a covering of green ſilk.

Mr. Warner in his Caſes, deſcribes a method of extracting the cataract with one inſtrument only.

Upon comparing the advantages and diſadvantages of the two modes of operating, ſome men of experience give the preference to depreſſion; and when we conſider that extracting the cataract is liable to two incidents, which are not known to have happened

pened after couching, namely, a general ſuppuration, and a waſting of the eye; ſurely depreſſion ſhould be preferred.

The principal objections to couching are, the chance of its riſing again, piercing through ſo many coats of the eye, and the danger of wounding the iris. The firſt is an unlucky incident, which may moſt commonly be prevented by preſſing the lens to the bottom of the eye, and carrying it on the point of the needle towards the outward and back part of the eye, as it were burying it in the vitreous humour; beſides, the operation may be repeated again and again, and at length attended with ſucceſs. Mr. Warner gives, in his Caſes, a remarkable inſtance of couching in the right eye of the ſame perſon four different times, in the ſpace of two months; and ſays, that the patient was capable of reading and writing in a fortnight after the fourth operation. It appears alſo, that the lens adhered a little to the back part of the iris, and that operating upon the other was unwarrantable, on account of general adheſion.

The ſecond objection is, that in conſequence of wounding ſo many coats, the eye is often affected with an obſtinate inflammation and continued pain. Still it will be allowed that extraction is of much more dangerous tendency, than depreſſion was ever known to be, when the caſe was free from adheſion and well managed.

The third objection, viz. that the iris is liable to injury from the needle, is of little moment; as it may be always avoided by an attentive operator, except there happens to be a ſlight adheſion, as in the foregoing operation, which being dexterouſly managed ſucceeded to admiration. The iris is liable to injury alſo in the operation by extraction, when the lens is forced with difficulty through the pupil.

Though medicine is little regarded in the cure of

cataracts, ſtill it is not unlikely that relief may be had at the beginning of this diſeaſe, when dimneſs of ſight is firſt obſerved; if attended with inflammation and pricking-darting pain, bleeding with leeches and otherwiſe, with gentle laxatives, and a temperate regimen may be ſerviceable, if not relieved by ſuch means, and opacity increaſe, particularly in a ſcrofulous habit, ſmall doſes of calomel with the extract or powdered leaf of hemlock, will be more likely to take effect; or perſevering in an alterative mercurial courſe by friction, together with the cortex twice a day. Electricity alſo is recommended in the firſt ſtage of the diſeaſe, by drawing ſparks from the parts adjacent, or giving ſlight ſhocks. Bliſters and a ſeton in the neck are thought uſeful.

Contracted Pupil. The iris or pupil is ſometimes ſo cloſely contracted, as not to admit light enough for diſtinguiſhing objects. This complaint may ariſe from a violent opthalmia, adheſion to a cataract, or a paralyſis of the ſtrait fibres.

Mr. Cheſelden has given an account of his dividing this part with ſucceſs in the two firſt diſtinctions. He performed the operation after the following manner: the eye being fixed open with the ſpeculum oculi, he paſſed a ſingle narrow-edged ſcalpel, with its blade held flat, and the edge of it from him, through the ſclerotica, as in couching, between the ligamentum ciliare and the circumference of the iris into the anterior chamber of the eye: he then divided the membrane, which when there is no cataract is ſaid to fly open, and leave a large orifice. If there be a cataract behind, it will be proper to make the opening above it.

This operation has been ſeldom attempted ſince Mr. Cheſelden's time, and its event is looked upon as very precarious. All poſſible means ſhould be uſed to prevent or check inflammatory ſymptoms.

DISORDERS OF THE EYELIDS.

Tumours and Tubercles are often to be met with on the eyelids. The Hordeolum is moſt frequent. When this kind of tumour is hard, red, and fixed, and is of the inflammatory kind, it is called a *Stye*, which moſtly breaks of itſelf, and diſappears.

Various unneceſſary diſtinctions are made of theſe and moſt other complaints of the eye and eyelids. Of theſe tumours are moſtly of the encyſted kind: they are of different ſhape and ſize, and replete with humours of different conſiſtence; they are hard or ſoft, veſicular or œdematous, round or oblong, with narrow or broad baſes, moveable or fixed: and their cauſes are ſimilar to thoſe of other parts. If they tend to inflame, ſuppuratives ought moſt generally to be applied; and they will require to be opened. Should they incline to grow larger without inflammation, it will be proper to remove them, which may be done with the knife, or a ligature made with thread waxed, ſilk, or hair. Thoſe that have a broad baſis, will require ſome care in diſſecting.

It will be better to let out the contents if the cyſt be thin, and then, with the aſſiſtance of the hook, to diſſect as much of it away as can be done with ſafety, making the firſt inciſion parallel with the eyelids; if ſteatomatous or firm, it is moſt convenient to preſerve the cyſt whole. After the ſkin and cellular membrane, which covered the tumour, has been divided with the ſcalpel, it is adviſed by ſome to paſs a waxed thread through the cyſt, and for an aſſiſtant to keep drawing the tumour whilſt the ſurgeon is diſſecting; but in common, if the eyelid be ſteady, the operator will be able to manage the hook with equal eaſe and advantage. The ligature is particularly calculated for thoſe which have a narrow baſe.

When

When the tumour has been removed from within-ſide the eyelid, a bland lotion is all that can be applied; if externally, the dry ſuture, or the interrupted with a fine needle ſhould be uſed, and ſoft lint muſt be applied. When the contents are diſcharged, ſlight ſaturnine or vitriolic ſolutions will be proper to prevent inflammation, and to conſtringe the parts.

Warts and Fleſhy Excreſcences are alſo apt to grow upon theſe parts; they frequently become large, and require to be extirpated, and treated after the manner ſtated in the preceding article. Cauſtic applications were much uſed formerly, to remove theſe and other complaints of the eyelid; but at this time they are little thought of. Abſciſſion and ligature are the principal means of cure. Warts and ſarcomatous tumours on the eyelids have proved cancerous in ſome habits.

Inverted and Relaxed Eyelid. Heiſter termed this complaint Trichiaſis. The cartilaginous edges of the eyelids will ſometimes turn inwards, in which caſe the hairs become offenſive to the eye, and, from a conſtant irritation, occaſion great pain and inflammation, ſo as in the end to endanger viſion. Its *cauſes* are a derangement of the hairs, an irregular cicatrix from a burn, ſcald, wound, or ulceration, relaxation, and irregular affection of the orbicular muſcle, and relaxation of the ſkin. It moſtly happens to the lower lid.

The following remedies are adviſed, agreeably to the nature of the cauſes. For the inverted hairs, removal by tweezers, and confining the new hairs to the outward part of the lid by means of ſtrips of adheſive plaſter, as ſoon as they are grown long enough.

If from contracted cicatrix, one or more inciſions may be made, in order to free it; the means preſcribed in the ſubſequent complaint may alſo be neceſſary, in part.

To

To relieve relaxation or irregular affections of the muſcular parts, an inciſion may be made acroſs the eyelid down to the orbicular muſcle; the contracted parts are then to be divided, and if the ſubjacent muſcle ſhould be affected, it will be neceſſary to ſeparate the fibres of the orbicularis, to get at it, and treat it in like manner; after which, a ſmall cauterizing iron moderately heated, may be lightly paſſed over the denuded fibres, ſo as to give them a regular contraction.

When this complaint is occaſioned by a relaxation of the ſkin only, aſtringent ſolutions are proper; if they fail, a fold of the lid may be removed with the ſcalpel, and the edges of the ſkin ſhould be laid exactly together, and be retained ſo by the adheſive plaſter, if practicable; otherwiſe the interrupted ſuture ſhould be made with a very fine needle. This operation is hardly feaſible, unleſs the complaint is become habitual, and hazardous to the eye.

Everted Eyelid. When the edges are turned outward, and retracted ſo much, that the interior ſkin becomes prominent, the complaint is called *Ectropium*; and when the upper eyelid only is affected, it reſembles the hare's eye, and is termed *Lagophthalmus*. Sometimes an inflammation of the eye, a ſarcoma, or an encanthis, accompanies this diſorder. It may ariſe from the ſame cauſes as in the former complaint, acting in oppoſite direction; and is ſometimes the conſequence of inflammation and tumour.

Little can be done for the relief of aged people, except the application of cooling reſtringent lotions. A proper inſtrument, contrived after the manner of temple ſpectacles, might be made to act as a ſupport to the lid, with moderate preſſure, and render the complaint leſs troubleſome and unſeemly.

When a tumour throws the eyelid outward, the cauſe, if practicable, ſhould be removed. Suppoſing it to be occaſioned from inflammation, the means

means preſcribed under that head ſhould be uſed; if the internal membrane be greatly thickened, and the protruſion be of long ſtanding, ſcarifications are moſt likely to be of ſervice.

The retraction is only to be remedied, by making an inciſion parallel, and near to the edge of the lid, ſo as to ſet free the ſtrictured parts.

Contraction from an ill-formed cicatrix, is more likely to produce everſion than inverſion; and ſhould be treated after the following manner: make one or more inciſions, in order to ſet it free; but if ſuch means have not due effect, make an inciſion of ſufficient extent through the integuments, and, by a careful diſſection, raiſe the contracted part of the ſkin; obſerving to re-apply the ſame in its proper ſtation, and to keep it ſo by ſlips of plaſter.

PRACTICAL SURGERY.

PART THE THIRD.

DISORDERS OF THE EARS.

THE ears are ſubject to various diſorders, moſt of which ariſe from inflammation and obſtruction. Inflammation of theſe parts may originate from the general cauſes already enumerated, and produce their conſequent effects, ſuch as tumours, abſceſſes, &c. Obſtruction comprehends the imperforated meatus, tumefaction and dryneſs of the glandular membrane, collected wax and ſordes, extraneous bodies, fungous and fleſhy excreſcences.

Inflammation and Pain. Theſe complaints require the ſame treatment that is ordered for other membranous or nervous parts. Venæſection, and gentle evacuations by ſtool, diaphoretic, and nitrous medicines, ſedatives, and ſaturnine or emollient cataplaſms, according to the particular ſtage of the diſorder.

Impoſthume in the Ear. When an abſceſs has formed in the meatus, that part is commonly choaked up with matter; which not only obſtructs the hearing, but may, from its lodgment and acrid nature, produce an obſtinate ulceration; on which account it will be proper occaſionally to ſyringe the

ear

ear with a ſmall quantity of the following detergent ſolution:

Thin barley water half a pint, or more, in which diſſolve one dram of the beſt gum myrrh, then add one ounce and a half of honey of roſes.

It will be ſometimes neceſſary to adminiſter the bark in moderate degree, and a gentle cathartic.

Imperforate Meatus. This natural opening, as well as moſt others in the human frame, is liable to be ſhut up from the birth, by a membranous covering or adheſion, immediately at its entrance, or more remote; it is therefore more or leſs difficult to remove. When not ſo deep as to endanger the tympanum, an aperture may be made with a narrow-bladed ſcalpel or lancet, which is to be kept open by doſſils of lint, a piece of bougie, or ſoft tents of proper length and thickneſs.

Tumefaction and Dryneſs. The mucous membrane which ſecretes the wax, is apt to grow turgid and dry. This complaint may proceed from an acrid ſtate of the juices, or a thickneſs after inflammation, and is generally a great impediment to hearing; ſcrofulous and venereal habits are moſt liable to it. For relief it is neceſſary to ſtimulate the part to ſecretion once or twice a day, with four or five drops of the following medicines:

Liquid opodeldoc and oil of almonds of each equal quantities. Or,

Pure oil of turpentine one ſcruple, oil of almonds, or pure olive oil three drams.

The ſteam of warm water, or of a mixture made with four ounces of the pectoral decoction, and two ounces of Mindererus's ſpirit, conveyed into the paſſage of the ear, has had the deſired effect, eſpecially when inclining to inflammation.

Sometimes a purulent diſcharge iſſues from the ear, ariſing from an increaſed ſecretion; this ſhould be frequently waſhed away, at firſt, with the detergent,

gent myrrh injection, or ſoap and water, and afterwards may be reſtrained by one made gently reſtringent, with the bark internally, &c. In caſes of a more obſtinate nature, the habit ſhould be particularly attended to. The bones of the ear have become diſeaſed; to remedy or prevent which, the paſſage ſhould be kept clean as poſſible, by means of injection.

Extraneous bodies. Indurated or concreted wax, peas, pebbles, inſects, &c. may paſs into the ear. *Wax* often gives way to a few drops of oil of almonds, inſtilled into the ear at bed time, ſtopping the opening with a piece of black wool, which on account of its ſpringineſs, is not ſo apt to inſinuate itſelf deep into the paſſage as either lint or cotton. When more difficult to be removed, repeated injections with warm water, the moſt approved ſolvent, will ſeldom fail; after which, the oil and wool may be applied.

Warm oil is deleterious to moſt inſects; a few drops will anſwer the purpoſe of deſtroying ſuch as have entered the ear, and they may be waſhed out with the ſyringe.

Peas, or ſuch bodies as ſwell, can ſeldom be removed but by dividing them into pieces, which may be done with ſmall ſciſſars and pliers.

Hard bodies may be looſened with the probe and extracted with the forceps; but when firmly lodged in the bony meatus, near to the tympanum, they have occaſioned vehement pain and inflammation; which prevents them being extracted by the paſſage, and they can only be removed, by making an inciſion through the poſterior and ſuperior part of the ear, near to the bony part of the meatus.

Fungus and Excreſcences may be removed, as in caſes of the like kind, by the knife, ligature, or cauſtic properly guarded and introduced through a canula.

Inſtru-

Inſtruments, called trumpets, are ingeniouſly contrived for the benefit of hearing, and are particularly uſeful in collecting and modulating the ſounds, when deafneſs is the conſequence of ſome defect in the interior part of the ear, or auditory nerve: thoſe made in the ſhape of a French horn, with a convoluted tube, are beſt adapted to the purpoſe. Internal deafneſs is to be relieved alſo by injecting into the euſtachian tube, an operation more frequently attempted than duly performed.

DISORDERS OF THE NOSE.

POLYPUS.

DESCRIPTION. The Polypus of the noſe, is a diſeaſe of the pituitary membrane, which lines the internal noſtrils and parts adjacent: it has various origins and attachments, and is of different forms and ſizes; obſtructs the voice, reſpiration, and deglutition, and is difficult to eradicate. Sometimes it makes its firſt appearance high up in the noſtril, and gradually elongates till it reaches beyond the wings of the noſe, ſtopping up one or both paſſages; ſometimes appearing in the fauces behind the uvula, at other times remaining concealed. It ſometimes takes its origin from the os ethmoides and the adjacent ſinuſſes.

It is a maxim with thoſe who are not well acquainted with the different kinds of polypus, to aim at extraction in almoſt every caſe; whereas in ſome, the operation will neither prove ſucceſsful nor ſafe. The Surgeon will be able to judge of the impropriety of uſing the forceps, from the following circumſtances.

The malign, or worſt kind of polypus, comes on with great pain in the forehead and upper part of the noſe;

noſe; is of a deep red, or rather a dark purple colour; is painful to the touch, incompreſſibly hard, and when preſſed, occaſions pain in the eye or forehead, diſcharges blood and an offenſive ichorous ſanies, has a dark livid cancerous appearance, and adheres ſo much to the membrane covering the inſide of the noſe, that it will not admit a probe to be paſſed round the lower part of the noſtril.

The benign, or milder kind is pale, greyiſh or light brown, ſprings from a pedicle, is ſeldom painful, is detached from the ſides of the noſe at ſome heighth, is not always of the ſame ſize, eaſily yields to preſſure, when preſſed is not painful, and may be extracted without much hæmorrhage or hazard.

Causes. They proceed from internal latent cauſes, and from external injuries; profuſe hæmorrhages, catarrhs, or defluxions: they are ſometimes attended with caries of the bones of the noſe, from a venereal cauſe, and are truly deplorable.

Cure. Thoſe of the malign kind, muſt be treated with palliative remedies, and alterative medicines ſuitable to the nature of the habit.

The benign may in general be extirpated with ſucceſs; the method of doing which is, by a pair of forceps with an opening at the end of each blade, the inſide of which is flattened and roughed like a file; this inſtrument is to be introduced about an inch and a half up the noſtril, or more if practicable, taking ſure hold of the tumour; then moving it from ſide to ſide, at the ſame time drawing it ſteadily downward. Some Surgeons adviſe twiſting it round till ſeparated, as being leſs injurious to the membranous lining of the noſe, than abſolutely tearing it away: but the latter mode is not ſo likely to produce a radical ſeparation from the pituitary membrane as when the force is regularly directed downward. When the polypus breaks off ſhort from its roots, the attempt ſhould be renewed, unleſs much hæmorrhage forbids; if ſo, defer perſevering, and wait for a bet-

ter opportunity. Sometimes a profuſe hæmorrhage immediately follows the ſeparation, but the veſſels ſoon retract; otherwiſe, it may be ſtopped by dipping doſſils of lint in ſome ſtyptic tincture and powder, and paſſing the ſame up to the mouth of the veſſel. If neceſſary, a ſmall cautery like a thin knitting needle, may be paſſed through a fine tube to the mouths of the bleeding veſſels, when high ſeated, and difficult to ſtop. The means particularly mentioned in the hæmorrhoidal diſcharge may be more eaſily and ſafely employed: but hæmorrhage is moſtly trifling from the truly benign polypus.

Cauſtic, and actual cautery, have been formerly uſed, in order to deſtroy the fungous and broad-baſed polypus; but the attempt is in the preſent times entirely laid aſide. In ſome caſes, theſe powerful means might ſurely be re-aſſumed, if properly guarded, rather than ſuffer the complaint to proceed without a check. The lunar cauſtic is more manageable than any other; and it is well known that ſarcomatous tumours in the eye, and other tender parts of the body have been cured, by cautious perſeverance in that remedy, where the uſe of the knife was impracticable.

The free uſe of a ſolution of alum, or a decoction of oak bark might at firſt prevent the growth of a polypus. Mr. Bell is of opinion that the mechanical preſſure of a proper ſized bougie, would in ſome inſtances impede its growth, and in the very incipient ſtate entirely remove it. The ſame reſpectable writer ſays, that the celebrated Dr. Monro and others have lately adopted a mode of extirpating the polypus by ligature, which Monſ. Levrette practiſed ſome years ago, in the removal of a large excreſcence in the vagina: and we are told that it has proved ſucceſsful, even where the tumour completely diſtended the noſtril. The polypus originating in the pharynx, or extending itſelf from the back noſtrils

into the fauces, is alſo ſaid to have been removed by the ſame means.

Here follows the application of the ligature to the polypus which proceeds down the noſtril; a piece of pliable ſilver wire of ſufficient length to admit of a proper ſized loop at one end of a ſilver tube provided for the purpoſe, and long ends at the other, is to be paſſed in full circle, or, of neceſſary width, up the noſtril, as near to the root of the polypus as poſſible, by means of the tube or canula, through which it is paſſed on one ſide, and a probe with a ſlit at its end on the other. The loop being properly fixed, each end of the wire that is left out at the lower orifice of the tube, muſt be drawn every day to a ſuitable degree of tightneſs, and be kept ſo, by being faſtened to a ſmall pin, which projects on each ſide of the bottom part of the tube, in a hilt-like form. The tube may be paſſed up the noſtril with greater eaſe, if it be conſtructed rather more flat than round; ſome recommend a double tube on this occaſion.

To apply the ligature to the polypus that falls into the throat, is much more difficult. The double extremity of a wire of ſufficient length to admit a proper ſized loop at one end of the tube, and long ends at the other, is to be gently puſhed through one of the noſtrils, ſo as to be perceived in the throat; the operator is then to introduce his fingers into the mouth, and open the double wide enough to encircle the neck of the tumour.

When the wire is properly fixed, let it be kept ſo till the ends which hang out of the noſtril are paſſed through the double canula; which tube is then to be puſhed up along the courſe of the wire, till it reaches the root of the tumour. Whilſt the upper part of the tube is thus held in its proper place, the two depending wires at its lower end muſt be drawn ſo tight, as to make the neceſſary ſtricture, and to be faſtened round the hilt, as before directed. A tu-

mour in the fauces of no ſmall ſize has been thus extirpated in a few days.

Ligature is, in many inſtances, the moſt deſirable mode of extirpating excreſcences, and often proves ſucceſsful in other parts of the body, more eſpecially when the tumour has a narrow baſis: but the polypus of the noſe, which moſtly takes its riſe from the membrane that is ſpread over the laminæ ſpongioſæ, is too deep ſeated to admit of poſitive eradication, by any other means than extraction; and ſometimes a cure cannot be effected without the ſeparation of a bony lamina.

FISTULA LACHRYMALIS.

DESCRIPTION. The ſeat of this diſorder is in the lachrymal ſac, and naſal duct. It varies in its circumſtances according to the degree of obſtruction in the duct, the ſtate of the ſac, or ſubjacent bone, and the general habit.

When the ſac is free from diſeaſe, and the naſal duct is open, the natural mucus is limpid, ſmall in quality, and paſſes inſenſibly into the noſe, together with the fluid ſecreted from the lachrymal gland, which paſſes through the puncta lachrymalia into the ſac: but whenever the paſſage through the naſal duct is impeded, the mucus lodges in the ſac, increaſes in quantity, changes its colour and conſiſtency, and is diſcharged by the the puncta. This is the general ſource of the diſeaſe; and except in bad habits, ſcarce ever originates from, or proceeds to an abſceſs or ulcer.

There are two ſtates of this complaint, the imperfect, and the perfect. The firſt is a diſtenſion of the ſac, and return of the mucus through the puncta, as already deſcribed; the latter, or perfect ſtate; is when the courſe of the diſeaſe, from inflammation, or irritation of the ſecreting gland, or membrane of the

the ſac, or a general affection of the habit, the diſcharge becomes purulent, and from its acrid ſtate, produces inflammation in the cellular membrane, and the ſkin covering the tumour; which ſometimes ſpreads to the eyelids, down the cheek, and the ſide of the noſe.

When the diſeaſed mucus can no longer find a paſſage through the puncta, the tumour is more and more diſtended, repeated inflammation renders the part covering the ſac ſloughy; and the diſcharge makes its way through a large opening in the ſkin, according as the teguments are more or leſs diſeaſed.

This ſtate is ſometimes attended with a caries of the ſubjacent bones: but ſuch a caſe very rarely happens, except in venereal, or ſtrumous habits; and in the former, it is generally the conſequence of the ethmoid bone being in a diſeaſed ſtate, therefore depends upon the cure of the conſtitutional complaint. Mr. Pott, who explained the diſeaſe with the greateſt preciſion, has divided it into four ſtages, or ſtates.

The firſt is, a ſimple dilatation of the ſac, and obſtruction of the duct, which upon preſſure diſcharges a clear, or cloudy mucus, the ſkin covering the ſac being entire, and free from inflammation.

The ſecond ſtate is, when the tumour is grown larger, the ſkin is inflamed, but entire, and the diſcharge through the puncta is of a purulent colour.

The third ſtate is, when the ſkin over the tumour becomes ſloughy, and burſts, and the mucus which uſed to be diſcharged through the puncta, makes its way through the opening in the ſkin, the naſal duct being thickened only.

The fourth ſtate is, when the paſſage into the noſe is totally loſt, and the inſide of the ſac is either ulcerated, or choaked up with fungus; and in this ſtate the ſubjacent bone is ſometimes carious.

CAUSES. This diſorder generally originates in a ſimple obſtruction, or an inflammatory affection of the naſal duct. The worſt ſtate principally happens in cachectic, ſcrofulous, and venereal habits.

CURE. The antients ſuppoſed this diſeaſe to be always attended with calloſity, and moſt frequently with caries; they therefore thought the cure could not be complete, without removing the calloſity, or laying the bone bare, which was done by cauſtic and cautery. Not knowing therefore the true cauſe and ſeat of the diſorder, all they had in view was, to deſtroy the calloſity, and forward exfoliation: and when by theſe means, an opening was made into the noſe, a cure was ſometimes accidentally performed. The preſent mode of cure is much to be preferred, and is perhaps as ſeldom known to fail as the former was to ſucceed. The principal intentions of the modern mode of cure are, to open and preſerve the natural paſſage for the exit of the mucus and lachrymal fluid, or to form an artificial one in its ſtead.

In the firſt ſtate, the aim is to recover the parts and paſſage without making an inciſion. The different attempts for that purpoſe are, by introducing a fine probe through the ſuperior punctum, the ſac, and duct, which is certainly practicable; but from the pain it occaſions, and the conſequent inflammation, can be of little uſe: by conſtant compreſſion, whether by bandage, or the ſcrew inſtrument, this can at beſt prevent only an accumulation from the paſſage through the puncta, and does not in the leaſt contribute to remove obſtruction in the duct; or by means of the ſyringe, which, if judiciouſly uſed in the recent ſtate, whilſt the mucus is perfectly clear, may prove ſerviceable; the trial, at leaſt, can do no harm: yet by the frequent uſe of a reſtringent collyrium, and avoiding things which tend to irritate, or ſtimulate the membrane of the noſtrils, and increaſe the lachrymal ſecretion, the diſeaſe in its re-

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cent ſtate may be kept under for many years, perhaps during life.

In the ſecond ſtate, when the adjacent parts become greatly ſwelled and inflamed, and the ſkin is likely to burſt, it will be right to make an inciſion into the upper part of the ſac; taking care to keep the knife at a proper diſtance from the juncture of the eyelids, and beginning the inciſion juſt above a line drawn even from that part towards the noſe, then continuing it ſtrait downwards.

After the inciſion is made, the ſac muſt be kept moderately diſtended with lint, or prepared ſpunge, in order to learn the exact ſtate of the ſac and naſal duct. Sometimes it happens, if the ſac be not diſeaſed, and the obſtruction in the duct be ſlight, that after a free diſcharge for ſome days, and the inflammation from the operation is ſubſided, a ſuperficial dreſſing, and moderate preſſure, will heal the ſore, and the cure will be complete. Indeed it is not at all improbable, that the common treatment of this diſorder after the opening has been made, ſuch as cramming it with lint, applying eſcharotics, and making too great compreſſion, too often prevents the good effect. In the ſtate here deſcribed, it will always be worth while to give this mode of treatment a fair trial.

If it ſhould not ſucceed, or the third ſtate ſhould occur, in which there is not the leaſt probability of its being effectual; an attempt ſhould be made to render the duct pervious, by paſſing a probe, a piece of catgut, or bougie, as far as it will eaſily go, and occaſionally repeating it, until it can be preſſed through the paſſage that leads from the ſac into the noſtril. Previous to this attempt, the upper part of the ſac ſhould be dilated with a bit of prepared ſpunge, in order to get more readily to the duct.

The paſſage thus obtained, it ſhould be diligently kept open for a length of time, with a piece of cat-

gut, a ſmall bougie, or a leaden probe; now and then injecting down into the noſtril, a little of the myrrh ſolution, or lime-water ſoftened with honey of roſes. When the opening is well eſtabliſhed, the ſore may be ſuffered to contract, ſo as to leave room only for the introduction of whatever is made choice of, for the purpoſe of keeping it ſo; and when the paſſage has been long enough to preſerve itſelf, the tent may be withdrawn, and a ſuperficial dreſſing applied over the external orifice. Whilſt it is cloſeing, a moderate compreſſion on the ſac will prevent a freſh accumulation of matter, and greatly aſſiſt the cure. A freſh collection will ſometimes form, although the naſal duct remains open; in which inſtance, the proceſs has been repeated with ſucceſs. In all ſuch caſes, a great deal depends on the conſtitution, and the ſtate of the diſeaſed parts.

As the eye muſt be kept confined whilſt the dreſſings are applied for the purpoſe of dilating the ſac, it will be neceſſary to keep the ſkin as clean, and cool as poſſible, by means of cooling lotions, Goulard's cerate, &c. and to renew the dreſſing as often as the diſcharge renders it neceſſary.

The laſt ſtate, or that in which the natural paſſage is ſo diſeaſed as to be totally loſt, or in which the bones are carious, is only to be remedied by piercing through the os unguis, which lies under the ſuperior and poſterior part of the ſac, into the noſe; and to render the perforation capable of affording a paſſage to the lachrymal fluid and mucus, after the external opening is healed. The curved trocar is the moſt proper inſtrument for the purpoſe; and care ſhould be taken to make the opening through that part which lies immediately behind the ſac, and not to thruſt the trocar too far up the noſe, for fear of injuring the os ſpongioſum; rather to turn the point obliquely downward, from the angle of the eye to the inſide of the noſe.

The diſcharge of blood from the noſtril, and of air

air from the wound upon blowing the noſe, will be ſufficient proof that the opening is made in a proper direction. A tent of lint ſhould be introduced into the breach of the bone, big enough to fill it, and long enough to paſs into the cavity of the noſe: this ſhould be removed on the third or fourth day, and renewed daily until the ſore is clean and granulated; and to prevent the fleſh from cloſing the perforated part, the end of the tent may be moiſtened with ſmall ſpirit of vitriol, or the part within the perforation touched once in two or three days with lunar cauſtic, well guarded at the end, with a quill. This may be done for ſome time; afterwards, inſtead of the lint tent, it will be proper to uſe a bit of bougie, catgut, or a leaden canula, of ſufficient length and ſize, to reach from the edge of the wound, to the inſide of the noſe, and to ſuffer the ſore to contract round it. The longer the patient wears this, the more perfect the opening; and when proper to be withdrawn, the ſore may be dreſſed ſuperficially, and healed with moderate preſſure.

When there is no proſpect of ſucceeding by the ſlighter operations, M. Pellier's practice is, to fix a tube, or canula, made of gold or lead, in the natural duct, or artificial opening into the noſe, and heal over it; this tube has two circular projecting edges, one at the upper part, the other near the middle. This inſtrument muſt, in ſize and length, be accurately adapted to the ſac, and the opening into the noſe, and be ſteadily fixed there, by means of a perforating conductor, and a compreſſor, inſtruments well known to the inſtrument makers in London.

The wound he directs to be kept open with a doſſil of ſoft lint, lightly ſpread with an emollient ointment, for ten days, or a fortnight; obſerving daily to inject ſome milk and water down into the noſtril, through the canula. At the end of that term, the ſore commonly looks clean, the diſcharge

is ſo far diminiſhed as to admit of wholly removing the doſſil of lint, and the exterior opening is likely to heal with little trouble, by the application only of court plaſter.

BLEEDING *at the* NOSE.

The moſt frequent cauſe of ſpontaneous hæmorrhage is an inflammatory diatheſis, and it is moſtly produced by an irregular ſtricture in the vaſcular ſyſtem: it generally breaks forth from veſſels that are leaſt confined, ſuch as thoſe of the noſtrils, lungs, rectum, vagina, uterus, &c. Perſons whoſe viſcera are weak and obſtructed, are very ſubject to this kind of hæmorrhage; it is ſometimes critical, and originates from an acrid heated bile.

Bleeding at the noſe is commonly preceded by quickneſs of pulſe, beatings in the temporal arteries, heavineſs in the head, flushings, and a tingling heat in the noſtrils. In perſons of a relaxed habit, the hæmorrhage is moſt frequent; and it is moſt copious in thin bilious coſtive habits. It is often reſtrained with difficulty, particularly during the hot months, in young vigorous conſtitutions, or where the texture of the blood is looſe. It frequently proves ſalutary in the firſt inſtance, but when profuſe, requires to be checked.

For the relief of this complaint in plethoric habits, it will be proper to draw ſome blood from the arm, and give a cooling purge or two, of Glauber's ſalts diſolved in a large portion of water; alſo to adminiſter nitre in large doſes, and ſuch like refrigerants. If it proceed from a looſe texture of blood, the bark and elixir of vitriol, tincture of roſes, and a few drops of laudanum as a ſedative, are moſt proper. But the principal concern which we have with this kind of hæmorrhage is, to point out the different external applications employed in ſuppreſſing it, when violent, and threatening bad conſequences.

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The firſt ſtep towards which is, the frequent uſe of thick compreſſes, dipped in cold vinegar and water, with, or without ſal ammoniac, or nitre diſſolved in it, upon the forehead, nape of the neck, and noſe, which have alſo been thought to anſwer when applied to the ſcrotum. Should theſe not have the deſired effect, vinegar, or a ſlight ſolution of blue vitriol in infuſion of roſes may be ſnuffed up the noſtril; doſſils of lint may be applied, dipped in the ſtyptic tincture, or the vinegar ſolution, and rolled in a powder made with bole and an eighth part of blue vitriol, by thruſting the end of it up the noſtril, ſo as to be in contact with the mouth of the bleeding veſſel, otherwiſe the blood will flow by the back noſtril; and this may be more eaſily effected by previouſly paſſing a bougie through to the fauces. The following method is ſaid to have been effectual in very obſtinate caſes. Tie a proper-ſized doſſil of lint to one end of a piece of ſtrong ſewing ſilk well waxed, then introduce a piece of catgut up the bleeding noſtril, through to the back part of the fauces; draw that end out of the mouth, and tie a knot in it, to which faſten the other end of the waxed ſilk, then withdraw the catgut and ſilk by the noſtril, till the doſſil is fixed in the back part of it, after which fill the fore noſtril with lint, and the bleeding muſt be ſtopped. The lint is not to be taken away for ſeveral days; it will be right alſo to uſe the vinegar compreſſes externally.

Tight ligatures, above the knees and elbows, are thought uſeful, by checking the return of blood from the extremities: the contrary is ſometimes practiſed with ſucceſs, when the hæmorrhage is thought to proceed from partial ſtricture, by putting the feet and legs into warm water, in order to relax the ſpaſm, and invite a more equal circulation.

OZÆNA.

DESCRIPTION. This diſorder is a foul and malignant ulceration of the pituitary membrane of the noſe: it may be diſtinguiſhed from a common ulceration, by its fœtid ſtench, and the carious ſtate of the bones. It extends itſelf into the ſinuſſes of the cranium, and the upper jaw-bones, deſtroys the ſeptum and other bones of the noſe, and erodes its cartilage, greatly diſfiguring the patient, and obſtructing both ſpeech and reſpiration.

When it happens in, or penetrates through the cavity of the upper jaw, called *Antrum Highmorianum*, which is immediately over the molares, or grinders; then it is termed *Ozæna in Antro*. The matter, after being retained in that bony ſinus for ſome time, renders that part carious, which lies contiguous to the ſockets of the teeth, and forces its way through them, forming fœtid ulcers behind the gums.

CAUSES. It ſometimes proceeds from an inveterate catarrh, which ſeldom happens, except in cachectic habits. It may alſo be occaſioned by injury done to the noſe, particularly if the patient labours under a ſcorbutic or venereal taint. The malignant kind commonly originates from, or is connected with, lues, or ſcurvy.

CURE. This diſorder is ſeldom to be cured, even in its mildeſt ſtate, without having recourſe to internal means. Mercurials, and decoction of the woods, with the bark, are moſt likely to ſucceed; except in the true ſcurvy, when the bark and antiſeptics, as directed under that head, are moſt proper, and mercurials would be highly injurious. The moſt effectual external remedies are, injections made with a mild ſolution of myrrh in barley water, or bark decoction, ſlightly acidulated with ſpirit of ſalt; a weak ſolution of corroſive ſublimate in water,

aqua

aqua ſapphirina, or camphorated vitriolic water, properly diluted; and in the worſt ſtage, fumigation with cinnabar, by itſelf, or joined with the dry gums. In ſlighter ulcerations, and where fungus is apt to prevail, white cerate, with an eighth part of the red præcipitate, has proved efficacious.

When the diſorder penetrates the antrum, extract one or more teeth near the part, and perforate the ſockets, if neceſſary, to give vent to the matter lodged in the ſinus. Cleanſe the part well with detergent injections, then uſe thoſe of the aſtringent and mercurial claſs, particularly a ſlight ſolution of ſublimate, or of calomel, in weak lime water. When the complaint is produced from, or complicated with a cachectic, or vitiated habit, adminiſter internal medicines accordingly. The cure cannot be regularly attempted till that is corrected, neither can it be complete, till the carious bones have been removed. A ſilver, or leaden canula, is ſometimes neceſſary to preſerve the opening, and admit of a free diſcharge.

Worms have been diſcharged from this ſinus; in ſuch a caſe it will be proper to inject oil, or a ſlight infuſion of tobacco: and the perforation ſhould be kept open for ſome time.

A large portion of the maxillary bone, together with three teeth, has been known to ſeparate, from the lodgment of purulent matter in the antrum. A hard painful tumour firſt appeared on the cheek, down the ſide of the noſe, and in about ſix weeks, a looſe pappy fungus ſprouted up on the outſide of the gum, juſt above the firſt molaris, from which oozed a yellowiſh matter; abſceſſes repeatedly formed and burſt, and in about a year and a half, a part of the jaw-bone grew looſe, and was removed by inciſion. Detergent injections, and lint dipped in an aqueous ſolution of myrrh and vitriol, were firſt applied; afterwards, granulations beginning to form, dry lint was the principal dreſſing, now and then touching it with

with blue vitriol, on account of the fleſh inclining to be exuberant. The ſore gradually filled up, and healed with very little deformity. The bark and elixir of vitriol were liberally adminiſtered, from the patient's relaxed ſtate, and apparent tendency to ſcrofula.

Cancer in the Noſe. This diſeaſe generally ariſes about the alæ naſi, or ſides of the noſtrils, in form of a ſlight tubercle, or pimple, fungus, or ſcaly cruſt, producing induration and tumour, which in proceſs of time ulcerates. The ſurrounding ſkin is of a duſky red colour, and the ſore is either irregular or hard at the edges, or flat and creeping, according to its firſt form. For its treatment, vide cancer.

Ulcers of the flat eroding kind, have been perfectly cured by Plunket's arſenical remedy; and in a caſe of this kind, where extirpation is likely to occaſion diſagreable deformity, and the diſeaſe is ſlight, the late Mr. Hunter recommended, as a radical cure, to touch the part ſlightly and repeatedly with lunar cauſtic, and cicatrize.

DISORDERS OF THE LIP.

THE HARE LIP.

DESCRIPTION. This is a natural defect in the upper lip, and is thus called from the diviſion, or fiſſure therein, reſembling the lip of a hare. In ſome, the diviſion is large, and a great part of the lip appears to be defective.

The fiſſure is ſingle, double, or complicated; the ſingle has one angular point, ſomething like the Roman Λ reverſed, except that the ſides and points are not regular; the double is more inclined to the form of the letter M; the complicated is when either of the former is attended with a diviſion of the palate on each ſide, in part, or extending to the back noſtrils,

noſtrils, and uvula, in which caſe the latter often proves defective.

The ſize and irregularity of the fiſſure is ſometimes ſo great during infancy, as to render the operation precarious. Yet it may be eaſily performed in a more advanced age. If a tooth or two ſhould awkwardly project into the fiſſure, extraction will be neceſſary.

Cause. This is one of thoſe complaints whoſe cauſe is too intricate to be aſcertained.

Cure. The cure is generally performed with the twiſted ſuture, if there be tegument enough, and the diviſion in the roof of the mouth is no objection to the operation; it ought not, however, to be undertaken, where there is no proſpect of bringing the edges together. It is to be managed after the following manner:

Firſt ſeparate the frænulum from the gum, with a ſcalpel, or a pair of ſharp-pointed ſciſſars, taking care not to wound the latter; then cut off the edges of the fiſſures with the ſciſſars, ſo as to meet in a point beyond the upper part, on both ſides, and bring the bleeding lips of the wound, as appoſite, and cloſe together as poſſible, after which paſs two or more pins, one after the other, according to the length of the wound, at about half an inch from one outward edge of the ſore, and carry them nearly to the bottom of the interior edge; then thruſt them in a parallel courſe onward, through the oppoſite edge poſteriorly, and bring them out at an equal diſtance anteriorly. The pins ought alſo to be paſſed in ſuch number and order, as not to leave any part of the wound gaping. Acroſs and round each of theſe pins, twiſt a waxed thread or ſilk five or ſix times, after the following form ∞, and place a piece of fine rag or lint, under each end of the pins, to prevent injury to the ſound part of the lip.

A pledget

A pledget of lint dipped into a mixture of honey of roſes and traumatic balſam, is applied by ſome, between the inſide of the lip and the teeth; but there is but little reaſon for doing ſo, except to prevent reunion at the frænum.

A pledget with honey of roſes, may be alſo applied externally, to prevent injury from preſſure. Bandage is thought improper, till the pins have been extracted, when that of the uniting kind will be abſolutely requiſite. The pins are commonly made with ſilver, tipped with ſteel points, the latter part of which, when paſſed, are to be ſnipped off with a pair of nail clippers. If made of a flat form, a narrow double-headed bandage may be carried round the forehead, over the ears, acroſs the lip, without cauſing any kind of injury by preſſure; at the ſame time it may be ſo managed, with the aſſiſtance of proper compreſſes, as to keep the cheek forward, and co-operate with the pins. The union is commonly ſo firm at the end of ſix or eight days, as to admit of the threads being divided, and the pins withdrawn; at which time, a ſlit is to be made in each part of the roller, through which its heads are to be reciprocally paſſed, in order to form the uniting bandage. The double-hare-lip requires two operations, which ſhould be performed, at leaſt, ſix weeks diſtant from each other; and the belly ſhould be kept in proper order, both before and after.

The union of the hare-lip has been formed without the uſe of the pins, by bringing the lower part of the pared edges even together, with the interrupted ſuture, an aſſiſtant at the time preſſing the cheeks forward with his hands, ſo as to bring the edges in contact; two plaſter compreſſes are then applied on each ſide of the wound, and ſlips of adheſive plaſter are fixed acroſs: a thick compreſs is alſo placed on each cheek, which with the aid of the bandage with ſlits, before deſcribed, may be made to keep the teguments

teguments in a forward poſition, and to retain the raw edges in cloſe contact.

This mode of uniting the inciſed edges, is ſometimes to be effected without the interrupted ſuture; but no method of treatment is equally certain with that in which the pins are employed.

CANCERATED LIP.

Description. This complaint is either latent or ulcerated; the firſt is an indurated, painful, diſcoloured tumour; the laſt is when that tumour changes to a fœtid ſpreading ulcer, the edges of which are turned in, and the ſurface of it has the appearance of a hard compreſſed fungus: the ulceration ſometimes begins with a crack, or a raw-headed pimple. If not timely checked or removed, it will extend itſelf over the glands of the mouth and fauces, cheek, chin, and neck; deſtroying the ſurface of the parts, and producing a hard ſcirrhous tumour around them, till it either ſuffocates the patient, or eats through ſome deep-ſeated veſſel; the hæmorrhage from which ſoon puts an end to a miſerable exiſtence.

In this ſtate of the diſorder, the pain excited by the acrid corroſive rheum, which conſtantly paſſes over the ulcerated parts, and drains from the glands, together with the fœtor of the diſcharge, are intolerable.

Causes. Its cauſes are generally local, from biting or picking the lip, a blow, puncture, &c. ſometimes it ariſes from a pimple, or a warty tumour, forming a ſlight excreſcence, which ſeldom proceeds to the ſcirrhous or cancerous ſtate, except in cachectic habits.

Cure. The curative intention is largely ſpecified under the article Cancer. Exciſion ſhould not be neglected in its early ſtage, and ſhould be done with the knife ſo effectually as not to leave the leaſt diſeaſed, or indurated part behind. The edges

ſhould be inciſed in as ſtrait a direction as poſſible, and be brought cloſe together and appoſite to each other, which may be eaſily effected, by preſſing the lower part of each cheek forward: they are then to be ſtitched up with the twiſted ſuture, after the manner of the hare-lip, and treated accordingly.

When the ulceration ſpreads into the mouth and fauces, the patient ſhould be frequently waſhing them with ſome bland mucilaginous liquor, particularly before taking any thing. A ſpoonful or two of the mucilage of quince-ſeeds, held in the mouth and gradually ſwallowed, allays the torturing heat; thin fluids rather ſtimulate.

DISORDERS OF THE TONGUE, FAUCES, UVULA, &c.

CANCERATED CHEEK AND TONGUE.

A cancer is ſometimes generated upon the ſide of the cheek or tongue, from a ſelf-formed pimple, a bite, bruiſe, or pointed tooth, which ſhould be timely filed, or extracted. Should it not ſoon yield to the remedies preſcribed for the cancer, the whole of the diſeaſed part, if practicable, ſhould be extirpated.

It will not be amiſs in this place to mention a complaint which has frequently proved alarming, and may in bad habits degenerate into ſcirrhus, and cancer. It is a thickneſs, hardneſs, and ulceration of the tongue or cheek, from a ſimple action, which many people have of nibbling and ſqueezing thoſe parts between the teeth. In a caſe of this kind, the whole cheek and part of the upper lip became greatly thickened and indurated, and a jagged ulcer formed on the injured part, which ſpread itſelf to the tongue. Much had been done without effect; at length it was neglected as an incurable *canker* in the mouth: but by ſyringing the parts with a mild ſo-

lution of myrrh, in barley water, ſoftened with a little honey of roſes now and then ſlightly touching the ulcerated parts with the following epithem, and adminiſtering a cooling purge or two, the tumour ſoon abated, and the ulcer healed.

Traumatic balſam and honey, of each one dram, ſpirit of ſalt, five or ten drops, Mix. A ſmall portion of this epithem is to be applied now and then, upon the end of a probe or ſkewer, armed with rag, cotton, or lint.

This application will check the progreſs of the ulcer in the malignant ſore-throat: the quantity of acid muſt be proportioned to the irritability, or putreſcency of the parts.

STRICTURED FRÆNULUM.

The tongue is ſometimes confined cloſe to the bottom of the mouth of infants, ſo as not to give it ſufficient play to buckle to the nipple in ſucking. If the tongue can be put out of the mouth, the operation will be needleſs, otherwiſe it may be ſet free by dividing the bridle only, with the ſcalpal or ſciſſars.

The tongue is ſometimes defective in its office, from a particular thickneſs and ſhortneſs in its make, in which caſe, the frænulum is more an expanſe of membrane: under ſuch circumſtances the operation can have no uſeful effect.

Ranula and Calculus. A tumour or abſceſs formed near the venæ ranulares, which lies conſpicuous under the fore part of the tongue, is called *Ranula*. The contents are a tenacious lymph, purulent matter, or ſtony concrete: it is ſometimes quick of growth, at other times remains indolent, and is moſtly of the encyſted kind. A fleſhy excreſcence grows ſometimes near this part, which if not timely removed, is apt to turn cancerous. An operation near theſe parts requires great caution, to avoid wounding the

adjacent nerves, and ſalivary ducts, particularly in young children. The abſceſs ſhould be opened tranſverſely, and when large, a part of the cyſt ſhould be removed. In ſome caſes, it may be as well to wait till the ſore breaks of itſelf, more eſpecially when it lies deep under the middle of the tongue. The ſtony concrete ſhews itſelf through the cyſt, and may be let out by inciſion.

The moſt proper applications afterwards are, honey of roſes alone, or mixed with traumatic balſam, barley water with gum myrrh, and honey of roſes, mucilage of quince ſeed, and the like. In caſe of hæmorrhage, the part may be repeatedly waſhed with cold oxycrate, or alum diſſolved in water: if profuſe, a hot knitting needle, or ſmall cautery properly guarded, may be applied to the mouths of the veſſels; under certain circumſtances, ſuch means become abſolutely neceſſary.

Ulcerated Palate. Ulcers ſometimes happen on the roof of the mouth, and erode the adjacent bones, particularly thoſe of the palate and noſe: the ſpeech is much injured, and liquids flow back into the noſtrils when the patient is drinking. They moſtly proceed from ſcorbutic acrimony, or venereal taint, and require ſuitable remedies.

Injections, gargles, and the balſamic epithem, as ordered for diſorders of the tongue, are proper: the perforation into the noſe frequently remains open, and plates of gold or ſilver, have been ſubſtituted for the loſs of bone, with good effect, reſpecting the voice. Fleſhy tubercles and excreſcences, ſometimes form on this part, and require to be timely removed by exciſion, for which a curved ſcalpel, in ſhape ſomething like a pruning knife, has been found moſt convenient. Vide, Warner's caſes in ſurgery.

Tumefied and prolapſed Uvula. The Uvula is ſometimes ſo relaxed as to fall down upon the roots of the tongue, it is alſo ſubject to ſwell, and to be greatly elongated; all which complaints create a diſagreable

ſenſation

ſenſation in the throat, as if ſome morſel was lodged there for deglutition, and excite a troubleſome cough, and hawking, with a ſtricture in the throat, which ſeems to threaten ſuffocation. In phlegmatic and debilitated habits, the velum palati frequently falls with it; in either ſtate, deglutition and reſpiration are obſtructed, and the tone of voice is altered. The uvula is ſubject to ulceration, more particularly from a venereal cauſe, and is alſo much affected, together with the neighbouring parts, in the malignant ſore-throat.

The tumour ſometimes proceeds from a catarrhous affection, accompanied with heat, redneſs, and pain in the part itſelf, as well as in thoſe parts which ſurround it, which are to be relieved by bleeding, cooling gargles, diaphoretic and nitrous medicines, laxatives, &c. Repeated complaints of this kind produce a thickneſs, and elongation of the part, and prevent a perfect recovery of its tone and ſhape.

Sometimes the uvula inclines towards the mouth, and is free from pain or inflammation; indeed, inſtances have been known of its lying upon the tongue full two inches in length. When it is free from inflammatory ſymptoms, and continues fallen, aſtringent gargles with infuſion of roſes, decoction of pomegranate bark, port wine, or claret, in which ignited iron has been often quenched, and a moderate ſolution of alum in water, have proved effectual. A mixture of pepper and honey, applied to the relaxed parts, is a common remedy; and the bark with elixir of vitriol, or tincture of ſteel, are proper internally.

Should theſe remedies fail, and the uvula be conſtantly, or at times, ſo much elongated, as to impede reſpiration, deglutition, or ſpeech, a part of it muſt be ſnipped off with a pair of ſciſſars, taking hold of it with forceps to prevent ſlipping. This operation requires ſome nicety and care, with regard to the portion which ſhould be removed, ſince taking

off too little, or too much, will fall of good effect. Mr. Sharp advices all but half an inch to be extirpated, but perhaps, in ſome caſes it may be going too far, with reſpect to the voice. The hæmorrhage may moſtly be reſtrained, by gargling with cold vinegar and water, a little ſtiptic powder applied at the end of a ſpoon, or even the actual cautery properly guarded, if neceſſary. When venereal taint, or the malignant angina, are the cauſes, ſuitable remedies ſhould be adminiſtered.

When the uvula is only elongated, abſciſſion may be ſafely performed, but when it is much increaſed in bulk, the ligature is recommended, as being moſt ſecure from hæmorrhage. This operation, whether performed by ligature or abſciſſion, requires to have the mouth fixed open. Should ligature be choſen, it may be faſtened upon the part by the fingers, and be tightened with the aid of the tube mentioned under the article polypus, by the ligament and inſtrument recommended by Mr. Cheſelden for the removal of the indurated and enlarged tonſil, or by Hildanus's Ring.

DISEASED GUMS AND TEETH.

Lancing the Gums. Infants ſuffer great pain, and are extremely liable to convulſions, from cutting the teeth. The gums inflame and ſwell, conſequently grow too thick and tough to be pierced by the teeth without great pain, and irritation of the whole ſyſtem: in all ſuch caſes, a tranſverſe or crucial inciſion, down to the tooth, is neceſſary. Cutting or ſcarifying the gums, gives relief to rheumatic pain, which frequently affects them and the covering membrane of the jaw and ſockets of the teeth. The gums are ſubject to little eroding ulcers, and ſpongineſs, which commonly ariſe from ſcorbutic acrimony, or a collection of tartar, as it is called; and are to be remedied

remedied by reſtringent dentifrices, and the barK with antiſeptics.

Abſceſſes, and fleſhy Excreſcences alſo form on the gums; the abſceſs is generally attended with great pain, quickly ſuppurates, and burſts; when deep-ſeated, they ſhould be opened in due time to prevent caries in the ſubjacent bone. Theſe ſores are indiſcriminately termed gum-boils, though they ſometimes originate in the periofteum and the ſockets of the teeth. Emollient poultices applied externally, and roaſted figs retained ſometime oppoſite to the part affected, will forward maturation: in the latter caſe, extraction of a tooth becomes neceſſary. Excreſcences are to be treated according to the directions already laid down for complaints of like nature in other parts.

ON THE TEETH.

The buſineſs of looking after the teeth is too much neglected by the regular-bred ſurgeon in the country. In every metropolis throughout the more refined parts of the world, we find it taken up as a diſtinct profeſſion; and thoſe gentlemen who follow it, are pretty well convinced of its utility; but this employment cannot anſwer ſeparately in the more diffuſed parts, on which account it may be reaſonably united with the ſurgical branch. There can be no doubt that the ſurgeon who is well qualified in his profeſſion, may, by a particular attention to the ſtructure and diſeaſes of the teeth, ſoon become an expert dentiſt; at leaſt, be fully acquainted with the more neceſſary parts of that branch. It is therefore recommended to every young ſurgeon, to acquaint himſelf with the minutiæ as well as the practical part of it, previous to his leaving the hoſpital.

The moſt uſeful books to be conſulted upon the occaſion, are thoſe written by Mr. John Hunter, and Mr. Beardmore, which with a three weeks

courſe of lectures, will be ſufficient groundwork to proceed upon.

The difficulties of the operative part, are eaſily to be conquered by practice, and the moſt neceſſary inſtruments for that purpoſe are, the ſcalprum, to remove the tartareous cruſt with, the raſp or file, to take off angular points, a gum lancet, and thoſe for extracting teeth.

Rational objections are made to the frequent uſe of dentifrices, when compoſed of hard ſubſtances, and mineral acids; notwithſtanding which, experience proves, that ſuch remedies properly prepared, are extremely uſeful towards removing the tartar or diſcolouration from the teeth, as well as healing and conſtringing the looſe ulcerated receding gums. As ſoon as the cruſt and blackneſs have been removed, thoſe remedies ſhould be only now and then repeated, to keep the teeth in order, and give firmneſs to the gums. If the latter are much affected from a looſe craſis of blood, the bark and other antiſeptics muſt be adminiſtred internally.

The following dentifrice is known to have recovered teeth that were extremely looſe, diſcoloured, and loaded with tartar, and fungous ulcerated gums that were worn down and exceſſively offenſive, without leaving the teeth ſo tender as they generally are after ſcaling;

> Armenian bole and cream of tartar, each half an ounce; powdered cinnamon, one dram, pure honey, two ounces, acid of vitriol, a ſufficient quantity to give a ſlight acidity.

Perſevering in the uſe of this dentifrice every other day, has gradually produced all the good effects of ſcaling: when a part of the tartar is removed, the mouth ſhould be waſhed with warm water after each meal, and after the uſe of the dentifrice. Frequent uſe of the mallow root, or a little

water

water juſt warm, will in ſome caſes be ſufficient to prevent future incruſtation.

Scaling the Teeth. When ſcaling is required, the point of the ſcalprum, which is an inſtrument made of ſteel and ſomewhat like a graver, is to be applied to the teeth, cloſe to the edge of the gums, with a degree of preſſure equal to ſeparating the yellow or blackiſh cruſt, by picking it upwards; at which time the teeth when looſe, muſt be ſupported, by placing the fingers of the other hand behind them; the point of the ſcalprum may alſo be employed in lightly ſcraping the tooth, when care ſhould be taken not to wound the gums.

Hollow and decayed Teeth. When the tooth is carious, it will give great pain, and tend to injure the neighbouring teeth; for which extraction is the beſt remedy. With thoſe who have not ſufficient reſolution to undergo the operation, firſt cleanſe the cavity, then fill it up with wax, maſtich, lead, or gold, or cauterize the interior part of it: both theſe means will ſometimes preſerve the tooth from foulneſs, pain, and future decay. Oil of cloves and origanum, or thebaic tincture dropped upon lint or cotton, or about half a grain of opium placed in the hollow, will give temporary relief. Some apply a bliſter behind the ear, or ſubmit to boring the antihelix with a red-hot knitting-pin, or cauterizing the hollow part of the tooth, and apply emollient cataplaſms externally. Leeches alſo are applied.

The operation of extracting the tooth is much eaſier to be learnt by obſervation and practice, than by written deſcription. Various inſtruments have been invented for that purpoſe; the key with a deep ſhoulder, and claws of different ſizes, for the ſide teeth, the pelican for thoſe in front, and the punch for ſtumps, are the inſtruments moſt in uſe.

DISORDERS OF THE TONSILS.

Inflamed Tonsils. If the inflammation on these parts be so great as to threaten suffocation, or gangrene, no one thing is so likely to give relief as scarification; more especially when common means have been used without success. Steaming, or syringing also with warm water and honey of roses, is of great use. The scarificator with a moveable point and blade, and a proper guard, is most convenient for the purpose.

Abscess in the Tonsils. When the tonsils proceed to suppuration, it should be forwarded by repeated application of the emollient poultice externally, and a sufficient opening should be made as soon as matter appears to be formed.

The glands are subject to grow large, and to be indurated, but seldom prove scirrhous. If after the use of astringent gargles and an alterative course, they should be so enlarged as to impede respiration or deglutition, the only remedy is extirpation. Caustic, and the knife, were formerly employed for that purpose; but the one is tedious, and requires nice management, and the other has been attended with profuse, and even fatal hæmorrhage: ligature therefore is safest and best.

When the base of the tonsil is smaller than the front, the ligature may be passed round it with the assistance of an eye probe, properly curved and fixed in a handle; if broad at the basis, it must be perforated at the bottom part, by the needle with an eye at the end, as invented and directed by Mr. Cheselden, armed with two proper sized ligatures, one end of each to be drawn out of the needle's eye on its further side, by means of a hook. The needle being bereft of its threads and withdrawn, and the ends all brought together on the outside of the mouth, the ligatures, each with its fellow end,

are

are to be tied ſtrait, one at a time, with the aid of an inſtrument contrived by that eminent ſurgeon, for the purpoſe of ſlipping the knot up to the part where it is to be faſtened: which is done, by paſſing the end of the ligature, held out of the mouth from the firſt, through the circular hole, or ring at its end, and carrying the inſtrument along the ligature near to its middle part: the ſtring is then to be thruſt by it, beyond the tonſil, and held in firm reſiſtance with one hand, whilſt the other retains and draws it on the outſide of the mouth. The double ligature muſt be drawn forwards and divided properly, ſo that one part be tied above the tonſil, the other below it, making a double knot to each, and cutting the remainder off pretty near to it. The ſeparation commonly takes place in three or four days, unleſs the ligatures get looſe, if ſo the operation muſt be repeated.

The method recommended for the extirpation of polypous excreſcences in the throat, is ſaid to have ſucceeded, where the tonſils required removal. The double tube uſed on the occaſion, is ordered to be properly curved towards its upper end.

DISORDERS IN THE NECK AND THROAT.

TUMOURS IN THE NECK.

Such complaints frequently affect this part, but differ much in their nature and quality, being either ſtrumous, encyſted, or ſcirrhous.

The ſtrumous, or ſcrofulous tumour is moſtly ſeated about the lower jaw and the parotid, or ſalivary glands, and ſometimes turns ſcirrhous, but more commonly tends to ſuppuration, or reſolution.

The encyſted tumour is formed in the cellular and adipoſe membrane, either immediately under the cutis, or in the interſtices of the muſcles. It is

tenſe

tenſe or ſoft, round or irregular, and ſometimes deep-ſeated and extenſive, particularly that of the ſteatomatous kind.

The ſcirrhous tumour is generally ſeated in the courſe of the lymphatics, and cloſe to the jugular vein; is detached from the muſcles or ſkin, moveable, and without pain. Swellings of this kind, which adhered to the vein itſelf, have been ſucceſsfully diſſected away, but ſuch operations require the greateſt ſkill, ſteadineſs, and dexterity.

The ſcirrhous tumour, which is of a ſtony hardneſs, round or oval, with a jagged edge, or irregular protuberances, and attended with darting cutting pains, is very likely to degenerate into cancer, which diſeaſe commonly makes a rapid progreſs in theſe parts.

All theſe tumours are to be treated as directed under their general heads, according to their different ſtates. Great care and circumſpection are required in extirpating them, on account of the numerous and large branches of arteries which are irregularly ſcattered about the neck, particularly thoſe ſwellings that are deep-ſeated. It will therefore be prudent, in ſuch a hazardous ſituation, to leave a part of the tumour untouched, which will frequently digeſt away, or may ſometimes be ſafely deſtroyed by means of ſlight and frequent applications of the lunar cauſtic. When tumours of this kind are almoſt entirely removed, the wound may be healed by adheſion.

We are told of deep-ſeated veſſels being wounded, and that the hæmorrhage has been ſuppreſſed with a body of lint and ſtyptics, together with thick compreſs, and conſtant preſſure with the hand, for ſeveral nights and days, where the tenaculum, or needle and ligature, could not be effectually uſed: but truſting to ſuch means, when the hæmorrhage is profuſe, is exceedingly dangerous, both to the credit of the operator, and what is of much greater

concern,

concern, the very life of his patient. The diſtreſs of both parties might perhaps be prevented, by making the diviſion of the teguments ſufficiently extenſive to afford room to get at the veſſels, and ſecure them by ligature. Yet the deeper ſeated wounds in the neck are certainly caſes of difficulty and danger; and when the injured veſſel is ſo hidden and dangerouſly ſituated as to prevent the uſe of the needle and ligature, the beſt ſubſtitute is the ſpunge, to be applied after the manner already deſcribed under the article *Complicated Wound*; aſſiſted by a regular ſucceſſion of compreſſes, bandage, and conſtant preſſure with the hand, if bandage cannot be made ſufficiently tight.

Should the ſalivary ducts be divided in extirpating a tumour formed in the cheek, or near the jaw, lint, or compreſs dry, or moiſtened with an aſtringent lotion, together with proper bandage, will ſometimes be ſufficient towards reſtraining the ſalivary diſcharge, and healing the part; otherwiſe it may be neceſſary to perforate the ſore into the mouth. For the after-treatment, ſee each kind of tumour under its proper denomination, and Scirrhous Breaſt.

WRY NECK.

Some ſurprizing inſtances are related by one or two German authors, of young people who were afflicted with this complaint from their birth, being cured of it at different ages; notwithſtanding which the operation is ſeldom performed.

The diſtortion may proceed from accident by burn or ſcald, from ſpaſmodic or rheumatic affection, from weakneſs in the oppoſite muſcles, and defluxion; or may exiſt from birth. When the latter is the caſe, all the muſcles muſt be inevitably affected, and the vertebræ generally partake of the diſtortion; on which account, it will be impoſſible to reſtore the head to its natural poſition. What credit

credit then ought to be given to contrary accounts? Mr. Sharpe, and other eminent men, declined the operation, except where the maſtoideus muſcle only was affected.

If the diſtortion be recent, and ariſe from cold or inflammation, bleeding, ſudorifics, and gentle evacuants, with diſcutient and emollient applications, will prove effective. If from ſpaſmodic or rheumatic affection, thebaic tincture, with antimonial or ipecacuanha wine, or volatile tincture of guaiacum, are the moſt proper remedies; the volatile ſoap, liniment with laudanum, and the like, may be uſeful externally.

Should it originate from irregular cicatrix after burn or ſcald, or any other accident affecting the teguments, the contracted parts muſt be releaſed by tranſverſe inciſions, cautiouſly made, for fear of wounding the jugular vein.

When it proceeds from a contraction of the maſtoid muſcle only, the operation is likely to be attended with ſucceſs, and may be done after the following manner with the crooked ſcalpel, or the inſtrument contrived for that purpoſe called a probe-razor.

The patient being placed on a table in the moſt convenient poſture, make a tranſverſe inciſion through the integuments, rather beyond the breadth of the muſcle, with the ſcalpel, and diſtant about one third of the length of the muſcle from the clavicle; then paſs the probe razor cloſe under the muſcle, and carry it outwards and upwards on the oppoſite ſide, ſo as totally to divide the muſcle, which, by proper management, may be done without injuring any conſiderable veſſel. The wound muſt be filled up with dry lint, the edges kept aſunder, and the head fixed upright. Some adviſe the dividing bandage; but the principal thing neceſſary, is to keep the head fixed in an erect poſture, which may be done moſt compleatly by means of a curved

curved plate of iron fixed at each end of a long intermediate ſtem, which laſt muſt be ſufficiently bent forward towards the upper curved tranſverſe plate, for the more eaſy lodgment of the neck: the inferior tranſverſe plate ought to be proportionately curved, and ſhould be made to reach along the collar bone, to the point at each end, where it nearly approaches the ſhoulder.

Dr. Hunter adviſed making the inciſion at the lower part of the muſcle, on account of the cellular membrane being leſs in proportion near that part.

BRONCHOCELE.

DESCRIPTION. Writers, both ancient and modern, have been much miſtaken with reſpect to the nature and ſeat of this tumour; having differently conſidered it, as being encyſted, adipoſe, aneuriſmal, and ſtrumous; their treatment of it alſo has been equally erroneous. Mr. Wilmer, in his uſeful book of caſes, having fully confuted their vague opinions.

This diſorder has its ſeat in the thyroid gland, and principally ſhews itſelf at the anterior and lateral part of the neck. It is ſometimes ſoft and moveable, at other times hard and immoveable, increaſing to an enormous ſize, and preſſing ſo forcibly againſt the veſſels and nerves of the neck, as to occaſion a kind of ſtupidity; which compreſſion is alſo the cauſe of a throbbing pulſe in the carotids, that gives it the ſuſpicious type of an aneuriſm. The bronchocele is ſometimes accompanied with ſtrumous affection of the neighbouring glands, but is ſuppoſed to be entirely independent of ſuch obſtructions. It is certainly endemial in ſome countries, more particularly thoſe that are mountainous: for inſtance, it is ſo frequent in Derbyſhire as to acquire the title of the *Derby Neck*; and the inhabitants of the Alps and Glaciers, are particularly ſub-

ject

ject to it, with whom it has the appellation of *Goitre.*

Causes. Some peculiarities in the air, ſoil, and waters, have been conſidered as cauſes of its being endemic; lifting heavy weights, and great ſtreſs on the parts, have alſo been ſuppoſed to produce this diſorder; but vain is conjecture, till the uſe of the thyroid gland is better underſtood.

From the nature and ſituation of the thyroid gland, particularly in its enlarged ſtate, when the ſize of its veſſels are greatly encreaſed, little can be ſaid in favour of extirpation. We are informed by reſpectable authority, that ſuch attempts with the knife have been attended with dangerous, and even fatal hæmorrhage; and from its nature and extent in the morbid ſtate, a radical cure is hardly to be expected from either ligature or cauſtic.

Internal means alone then are chiefly depended upon in this extraordinary complaint: preſuming therefore upon the philanthropic wiſh of the worthy gentleman before-mentioned, who has ingenuouſly diſcloſed the mode of cure, which from lucrative motives had been ſo long concealed by others; the author has taken the liberty to tranſcribe the two receipts, the remarks reſpecting the equality of their powers, the particular injunctions in adminiſtering them, and the circumſtances under which they are, or are not, likely to ſucceed. At the ſame time, he has ſubjoined a proceſs which was perfectly ſucceſsful in a tumour of the ſame kind.

Number I.

"The day after the moon hath been in the full, "the patient is to take a vomit; on the ſucceeding "day, a purge is to be adminiſtered. On the third "night, going to bed, one of the boluſſes is to be "placed in the mouth, under the tongue, and be-"ing ſuffered to diſſolve gradually, is to be ſwal-

"lowed.

" lowed. This bole is to be repeated the ſix ſuc-
" ceeding nights.

" Calcined ſponge, cork calcined, and pumice
" ſtone burnt, of each ten grains; to be ſepa-
" rately powdered, and made into a bole with
" ſyrup, honey, or mucilage.

" On each of the ſeven days that the patient
" takes this bole, the following powder is to be
" adminiſtered in the forenoon, in a proper ve-
" hicle.

" Chamomile flowers, gentian root, and the
" tops of the leſſer centaury, of each, in
" powder, five grains.

" On the eighth day the purge is to be repeated;
" in the wane of the ſucceeding moon, the ſame
" proceſs is to be entered into, and repeated a third
" time, unleſs the diſeaſe is cured before. The
" vomit is only to be taken before the firſt courſe
" of medicines.

NUMBER II.

" Calcined ſponge half a dram, and honey a
" ſufficient quantity to make a bole.

THE PREPARATION.

" Tie the ſponge up hard with wet packthread,
" and calcine it in a crucible.

" Theſe boles are to be uſed as thoſe of the
" former receipts. The bitter powders are to be
" taken, and the ſame directions, with regard to
" evacuation, obſerved in every reſpect as No. I.
" A very eminent ſurgeon who hath had many op-
" portunities of ſeeing the good effects of both theſe
" preparations, aſſures me, that either of them will
" ſucceed with more certainty, if the patient takes

" a purge and vomit during the increaſe of the " moon. Some parts of theſe directions ſeem to " bear the character of empiriciſm; but where no " harm can poſſibly ariſe from, nor any inconve- " nience follow their uſe, it is to be wiſhed, that " thoſe who think proper to give either of the pre- " ceeding methods a trial, will do it in the manner " recommended. It ſeems highly probable that the " chief virtue of the bole conſiſts in the ſpunge.

" The calcined ſpunge for either of our prepara- " tions, is carefully powdered in a glaſs, or marble " mortar; if a braſs one is uſed, the ſalts of the " ſpunge may attract ſo much of the metal as to " give it an emetic property.

" If the bronchocele is not very large, hard, or " of long date; if the patient is a female, young, " or not paſt thirty, I believe it will give way to " the treatment juſt deſcribed; but if the patient is " a man, or of either ſex paſt the meridian of life, " I fear, that in direct oppoſition to the Coventry, " or any other receipt, the bronchocele will ſtill " remain one of the opprobria medicorum."

An obſtinate ſwelling of this kind, of five year's ſtanding, in a young woman about twenty years of age, was a few years ſince removed by perſevering about ſeven weeks in the following remedy; ſhe rubbed a ſcruple of ſtrong mercurial ointment into the part every other night, and took a proper purge, with jalap corrected with ginger, once in ſix days.

Calcined ſpunge, half a dram; powdered root of rhubarb three grains. Mix.

This powder was taken every morning and even- ing, in a cup of cheeſe whey, except thoſe days on which the purging powder was taken.

TRA-

TRACHOTOMY.

Or what is erroneouſly called Bronchotomy, is an operation which is very ſeldom ventured upon in this country, yet abſolutely neceſſary in certain caſes that threaten ſuffocation. A few German and French ſurgeons are ſaid to have performed it with ſucceſs. Heiſter tells us, that by this operation, he happily extracted a piece of boiled muſhroom from the larynx of a perſon who was in immediate danger of ſuffocation; but forgetting his uſual candour, he too raſhly condemns thoſe who decline performing the operation, and too boldly pronounces it ſafe, eaſy, and ſalutary.

The principal occaſions on which it is recommended are, when any hard body is firmly fixed in the trachea, or in the upper part of the œſophagus, and threatens immediate ſuffocation; or, in order to inflate the lungs of a perſon nearly ſuffocated by conſtriction of the glottis, or ſuperior part of the larynx, particularly from drowning; obſerving to ſtop the noſtrils, and forcibly blow breath into the lungs through the orifice; or, when indurated ſwellings obſtruct the fauces, which can neither be brought to ſuppuration, nor diſperſed. In caſes that will admit of deliberation, it would be prudent to conſult with ſome perſon ſkilled in the profeſſion, before the buſineſs is determined upon. The operation may be performed as follows:

The patient being placed conveniently on a table, and properly ſecured with his head leaning back, a longitudinal inciſion is to be made in front through the teguments, a little below the thyroid cartilage, and an inch or more in extent downwards: the muſcles being ſeparated, and the bleeding ſtopped by tenaculum and ligature, if neceſſary, the edges are to be drawn aſunder, and a tranſverſe inciſion is to be made cautiouſly with a lancet or ſcalpel, be-

tween the cartilaginous rings, into which a ſilver canula ſhould be introduced of about an inch in length, and made rather depreſſed and curved, which is to be paſſed through three or four bits of thin linen rag, ready perforated in the middle, on which the rim of the canula is to reſt; and which pieces may be occaſionally cut away in caſe the part ſhould ſwell; being intended for no other purpoſe than keeping the canula at nearly the ſame depth in the trachea. A double canula, well fitted, is preferable to the ſingle one, as it is very apt to be filled with mucus, and does not ſo readily admit of being occaſionally cleanſed and replaced. When the part has been kept open a ſufficient time to anſwer the intent, the canula may be withdrawn. The orifice will ſoon heal with ſuperficial dreſſing, as mentioned in the cure of wounds of this part.

A more ready and eaſy method may anſwer the purpoſe as well, by paſſing a triangular or flat trocar with a canula of proper ſize, and limited to a proper length, into the middle of the trachea, between the rings, without previous inciſion. A piece of fine muſlin is recommended to be placed over the external orifice of the canula, to prevent duſt getting in.

OBSTRUCTIONS IN THE ŒSOPHAGUS.

It often happens that ſolid food, or ſome other ſubſtance, makes a lodgment in the œſophagus, or gullet; the mode of removing which will depend upon its nature and ſituation. If the ſubſtance be near the fauces, it may be extracted; if deeper in the gullet, it muſt be puſhed downwards.

When the ſubſtance is hard and pointed, its removal has been effected by forcibly ſwallowing a draught of ſome liquid, or a cruſt of bread, after it had been well chewed: repeated ſtrokes with the hand between the ſhoulders, and preſſure of the

throat below the obſtructed part, have alſo proved effectual. Should theſe means fail, it may be thruſt down with the probang, an inſtrument made with a long piece of whalebone, and tipped with ſponge, or by a ſmall wax candle made pliable.

Fiſh, and other bones, needles, and ſuch-like ſubſtances, have been removed after the ſame manner; but provided reſpiration and deglutition are not dangerouſly impeded, it will be more prudent to let them remain in the paſſage, than try to force them downwards, for fear of ſtriking them deeper, and doing greater injury: beſides, the extraneous body has a chance of being ſet free by partial diſſolution, or ſuppuration in the part where it lodges.

In deſperate caſes, when ſuffocation is likely to enſue, œſophagotomy is recommended. Two caſes are mentioned in the Paris Memoirs wherein it proved ſucceſsful. This operation may be performed by making an inciſion near the obſtruction, about two inches in length, through the cutis and cellular membrane, cloſe to the trachea; then holding the muſcles and thyroid gland on one ſide, whilſt the trachea is drawn to the other, ſo that the gullet may be ſeen and the ſubſtance felt, a longitudinal inciſion of fit ſize is to be made into the part near it, and the morſel is to be extracted with pliers, or ſmall forceps. The wound ſhould be treated after the method already deſcribed, and nutriment for ſome time muſt be given by glyſter, afterwards, thin nutritious diet in ſmall quantities by the mouth.

The buſineſs of œſophagotomy is one of thoſe poſſible operations, which, from the future eventful proceſs, promiſes little ſecurity to the patient, and no great credit to the ſurgeon.

DISORDERS OF THE THORAX.

PARACENTESIS.

By which word is meant a perforation into either of the cavities for the diſcharge of water, blood, air, or matter.

The general effects of either of theſe fluids being collected in the cheſt, are, great difficulty in breathing, a ſenſe of weight and fulneſs in the thorax, a feeble and irregular pulſe, incapability of lying upon the unaffected ſide, together with reſtleſſneſs and interrupted ſleeps. There are alſo certain ſymptoms annexed to each of theſe complaints, by which they may be eaſily diſtinguiſhed from each other, and be more clearly aſcertained.

Water in the Cheſt. This complaint may be general or local, on one ſide or on both; and takes its riſe from a morbid increaſe of exhaled lymph. It has ſometimes its particular lodgment in the duplicature of the mediaſtinum, and in the pericardium.

The ſymptoms which are peculiar to the hydrops thoracis, are, a ſenſe of water undulating in the cheſt from ſudden jerks, or riſing quickly from a horizontal poſture; motion of the fluid is alſo to be perceived by holding one hand flat againſt one ſide of the cheſt, and ſtriking the oppoſite ſide with the other; a dry cough, a quick weak oppreſſed pulſe, palpitation, a ſmall diſcharge of urine, and a ſudden revulſion or diſperſion of ſwelling in the legs or feet.

When the mediaſtinum is particularly affected, the patient feels a weight at the ſternum, which obliges him to ſtoop forward when he ſtands up, or walks. If the pericardium only be affected, the

oppreſſive

oppreſſive feel is more in the middle and left ſide of the cheſt, and an undulatory motion is ſaid to be perceived at each ſtroke of the heart.

When theſe marks appear, attended with the general ſymptoms in violent degree, the operation is thought to be neceſſary; but this buſineſs is not always ſo clear as to be free from miſtake; it is therefore neceſſary to attend to the nature of the habit. If anaſarcous, the diſorder in the cheſt is moſt likely to be relieved by punctures in the ankles, or a ſmall bliſter in the thigh; if complicated with aſcites, the operation can be of little or no uſe; in fact, it ought not to be performed unleſs the fluid is confined to the cheſt. Before the operation is concluded upon, the ſtrength of the patient ſhould be duly conſidered, for in weak habits, and where the quantity of fluid collected is great, it would be better not to draw off the whole at once.

When the exiſtence of the water is aſcertained, and the perforation is neceſſarily determined upon, it is always ſafer to perform it cautiouſly with the ſcalpel, than with the trocar, from a probability of the lungs adhering to the pleura. It ſhould be done after the following manner:

The patient being conveniently ſeated, or laid on a bed in a horizontal poſture, an inciſion, not leſs than two inches in length, is to be made in the courſe of the ribs, through the integuments, between the ſixth and ſeventh rib, neareſt to the ſuperior edge of the lower rib; for fear of wounding the intercoſtal artery, which generally lies in a groove at the lower edge of the ſuperior rib; then gradually ſhortening the wound, and diſſecting through the intercoſtal muſcles, down to the pleura, cautiouſly divide that membrane about an inch in length, and as ſoon as the water ruſhes out, introduce a ſhort ſilver canula, which may be cloſed occaſionally.

If an adheſion appears at the opening, and no fluid paſſes, another may be made nearer to the

ſternum, or a rib or two higher, or lower. Some judicious practitioners have directed the ſkin to be retracted upwards by an aſſiſtant, previous to making the inciſion, and to be returned over the diviſion of the pleura, after the exit of the fluid, in order to prevent the entrance of the external air into the cavity. This precaution having been neglected in ſeveral inſtances of the empyema without inconvenience, ſhews it to be unneceſſary when one ſide of the cheſt only is concerned; perhaps this proviſion may be more neceſſary where perforation is to be made on both ſides.

The whole of the fluid may be drained off by placing the patient in a horizontal poſture, and making the opening in the moſt depending part. The operation being finiſhed, a pledget is to be applied over the wound, with a ſoft compreſs, and retentive bandage; internal medicines, as on other like occaſions.

It has been recommended to perforate the pericardium with the trocar, and to trepan the ſternum in order to paſs that inſtrument into the mediaſtinum, when water is lodged in either of thoſe parts. The firſt of theſe operations is too bold a puſh to be made without abſolute authority; the laſt might be done with ſafety, but ſtands in need of the moſt poſitive evidence that the fluid exiſts in the part, before it is put in practice. The operation of paracenteſis is not therefore likely to be raſhly attempted for the hydrops pericardii, and mediaſtini.

Blood in the Cheſt. In this caſe the general ſymptoms are more oppreſſive than in the preceding, and the indications are more overt, part of the blood being thrown up by coughing. The cauſes are, wounds, bruiſes, fractures in the bones of the thorax, eroſions, and ruptures of the veſſels from violent exertion, &c.

If the collection be great from an external wound, the opening ſhould be enlarged, provided the vital functions

functions be greatly impeded. Mr. Sharp, and other eminent men in the profeſſion, have adviſed waiting for the blood to be abſorbed, and coughed up. Heiſter, and others, recommend an opening to be made as before directed, and tepid water to be warily injected, in order to dilute the coagulated blood.

Should a ruptured or injured artery of ſome ſize be the cauſe of the collection, and the action of the lungs and heart be vehemently obſtructed, ſo as to endanger the patient's life, it is not likely that any kind of operation would ſucceed; and in leſs momentous caſes, the vital functions may not be ſo far impaired as to prevent the ſalutary effects of bleeding, medicines, reſt, and regimen, or ſet aſide the more reſpectable efforts of nature.—Vide Wounds in the Cheſt.

Air in the Cheſt. When air paſſes from the lungs into either of the cavities, it ſoon proceeds to an alarming height. This collection may originate from injury done to the membrane which inveſts the lungs, by violent exertion, eroſion, or fractured bones of the thorax, which laſt is the moſt frequent cauſe; the air collecting in ſuch quantity as to deſtroy reſpiration, and the pulſation of the heart; ſometimes forcing its way into the cellular membrane, and diffuſing itſelf all over the body. This emphyſematous ſwelling is known from any other kind by a crackling and elaſtic feel, upon friction or preſſure.

In ſuch a caſe, it will be proper to make ſeveral long inciſions into the cellular membrane, and to endeavour to preſs the air through them. Should this, and the other means noticed under the article, *Emphyſema*, prove ineffectual, the perforation muſt be made through the pleura, after the manner preſcribed in the hydrothorax, near to the injured part, if not too near the vertebræ, or too low down; when it will be right to make the opening between the ſeventh and eighth rib, about half way from the breaſt

breaſt and back bone, for fear of injuring the intercoſtal artery, or the diaphragm. Hard compreſſes placed upon the ends of the rib, and over the tumour, with the napkin bandage repeatedly tightened, have proved ſucceſsful. *Vide Fractured Rib.*

Matter in the Cheſt, or Empyema. This collection is generally preceeded by ſuch ſymptoms as leave no room to doubt its exiſtence. It ſeldom happens without previous inflammation, fixed pain, rigor, cough, purulent expectoration, and inability to lie on one or on either ſide, in caſe pus is contained in both cavities: there alſo generally appears a kind of œdematous ſwelling externally, where nature points for evacuation. The matter generally forms between the lungs and pleura, which, if not timely diſcharged, brings on oppreſſive ſymptoms, erodes the lungs, diaphragm, ribs, &c. and produces a maraſmus.

If there be no natural indication externally, expectoration be ſtopped, and the oppreſſive ſymptoms increaſe, the operation becomes neceſſary, and ſhould be performed in the foregoing method and place, except that the inciſion in the pleura ſhould be generally longer. A tent is here abſolutely neceſſary, and the beſt kind is that made with a long flat doubled piece of fine linen rag, with a piece of thread faſtened to its middle, and paſſed round the bandage; which rag muſt be renewed daily, and ſhould be proportioned to the ſize of the ſore; a pledget, ſoft abſorbing compreſs, and retentive bandage are the further neceſſaries.

Abſceſſes have been known to form between the pleura and ribs, and to make their way externally; which, by being in due time opened with the lancet, and kept ſo with the linen tent till the diſcharge became trifling, have done well. The bark and chalybeates, or vitriolic medicines, milk diet, and proper regimen, are neceſſary reſtoratives under

ſuch diſcharges. In two caſes of this kind which did perfectly well, the openings were made where nature pointed; one above the ſixth rib near to the ſternum, the other between the ſixth and ſeventh rib near to the back-bone.

PARACENTESIS OF THE ABDOMEN.

This operation is performed in that kind of dropſy called *Aſcites:* prior to its performance, it will be proper to ſearch after the following marks and diſtinctions, in order to aſcertain the exiſtence of the diſeaſe, and the propriety of the operation.

Description. The moſt convincing proofs of a diffuſed aſcites are, an equal and uncircumſcribed tumour of the abdomen; great ſenſe of weight and tightneſs therein; undulation of the fluid, which is to be felt by placing the palm of one hand flat againſt one ſide of the body, and ſtriking ſmartly on the oppoſite ſide with the other hand; a dry cough and ſkin: dyſpnœa, particularly in a recumbent poſture; great thirſt, and paucity of urine; with meagerneſs and paleneſs in the ſuperior parts and face.

Sometimes the fluid is contained in cyſts of various ſizes, and in veſicles called *Hydatids*, in which caſes the fluctuation is not ſo eaſily felt, and the tumour is rather unequal. This is alſo the caſe when it is partially collected in the ovarium; which is alſo to be diſtinguiſhed by the ſite, hardneſs, and irregularity of the ſwelling, by being attended with little or no dyſpnœa or cough, and with leſs degree of weakneſs than when the fluid is diffuſed throughout the cavity. The dropſy of the ovarium is ſometimes complicated with aſcites.

Pregnancy is to be diſtinguiſhed from aſcites, by fullneſs and firmneſs of the breaſts, and the dilatation of the os uteri; beſides which the thirſt is ſeldom ſo great,

great, the urine ſo ſparing, or the ſuperior parts ſo emaciated as in aſcites.

The fluctuation, without perceiving which it would be hazardous to operate, is leſs in degree, in proportion to the viſcidity of the fluid, or the fullneſs and tightneſs of the teguments. The operation is ſeldom proper when the aſcites is mixed with anaſarca; punctures on the legs and ankles are then by far more likely to prove ſerviceable.

When air is collected in the cavity of the abdomen, it is called *Tympanites*. It generally originates in the larger inteſtines, and ſometimes makes its way through a ſmall opening into the cavity. This complaint is eaſily to be diſtinguiſhed from the watery tumour, by its tenſe feel, hollow drum-like ſound, and want of fluctuation.

Causes. The aſcites proceeds from debility in the ſyſtem, and want of energy in the inhalent and exhalent veſſels of the abdominal cavity: alſo, from obſtructions, and the weakened or ſcirrhous ſtate of the meſenteric glands, the liver, or ſome other viſcus.

The tympanites generally proceeds from weakneſs in the contractile power of the inteſtines, particularly of the colon, which is known to allow of wonderful diſtenſion. For an inſtance of which diſtenſive power, vide the Caſe of a Scirrho-contracted Rectum, Lond. Med. Memoirs, vol. 4.

When the common courſe of medicines has not the deſired effect, recourſe is had to perforation or tapping. It is probable that the operation would be leſs likely to fail, were it not deferred ſo long as it commonly is: for, as ſoon as fluctuation is fully and plainly perceived, little is to be expected from the uſe of other means, previous to tapping; which operation is to be performed after the following manner.

The patient placed conveniently in a chair, or on the ſide of a bed, is to preſs his hands cloſe claſped together,

together, upon the epigaſtric region; or, an aſſiſtant may keep a conſtant preſſure on the upper part of the abdomen, by means of a broad linen cloth perforated or not in the middle, which compreſſion is to be gradually increaſed as the water is diſcharging, to prevent fainting.

The ſurgeon having dipped the end of the trocar with its canula into oil, ſtabs it ſuddenly, or puſhes it gradually, and with proper force, ſtrait forward into the abdomen, at equal diſtance from the navel and the middle part of the ſpine of the ileum, or hip-bone, ſo as to introduce the canula alſo; which he will perceive to be done by loſing the extra reſiſtance ariſing from the ſilver edge of the latter; he then withdraws the perforator, and leaves the canula, through which the fluid is to paſs off; all which may be done without hazard to the inteſtines. In the courſe of the evacuation, the end of the canula is ſometimes obſtructed by a part of the omentum or inteſtine, which may be readily puſhed back with the blunt end of the probe.

When the fluid is drawn off, and the canula removed, a pledget of dry lint and plaſter is all the dreſſing neceſſary to the wound, over which a large compreſs, dipped in brandy, ſhould be applied; and the preſſure muſt be continued, by means of a flannel roller ſeven or eight yards long, and about five inches broad, which bandage is to be continued from the bottom of the belly gradually upwards, for the ſupport of the inteſtines and diaphragm. The compreſs and bandage may be daily renewed after the ſecond or third day, for a time. This operation may alſo be performed, in the dropſy of the ovarium; which commonly makes its appearance more on one ſide of the body, unleſs it has burſt into the cavity of the abdomen, or is joined with an aſcites. This diſeaſe is moſtly encyſted, and has ſometimes required more than one puncture.

The

The place where the operation for the aſcites is uſually performed is not unexceptionable; the thickneſs of the teguments may prevent an accurate perception of any ſubjacent or adhering viſcus; beſides, the epigaſtric artery may ſometimes be brought ſo near the part which is commonly punctured, as to render the operation dangerous—and perſons have been carried off by fever and other conſequences of peritoneal inflammation.

The worthy preſident of the Medical Society, Dr. James Sims, having witneſſed a few diſaſtrous events from one or other of the foregoing cauſes, earneſtly recommends an entire change of place for the operation, and points out the umbilicus as a ſafer part, by puncture of a common lancet. The orifice is not required to be large, and the fluid ſhould be allowed to come away without extraordinary preſſure, agreeably to the contraction of the integuments.

The paracenteſis was formerly practiſed to diſcharge the air in the tympanites; but it is an expedient of too dangerous a nature to attempt.

It was the practice alſo, till of late years, to draw off a part of the fluid only at one time, for fear the patient ſhould ſink, from loſing the preſſure of the fluid on the large veſſels too haſtily; but there is no danger in evacuating the whole, provided proportional weight or preſſure be maintained during the time of, or after the operation. The encyſted dropſy has been known to require more than one puncture; but when the veſicles are ſmall, no good can be expected from the operation.

After the water has been completely evacuated, and every medical attempt to reſtore the parts to their proper energy and tone, has proved ineffectual, the operation may be again and again performed. More inſtances than one or two are authentically recorded, of perſons having been tapped once a month for ſeveral years together; and of others that have had longer

longer intervals, and felt no great inconvenience, till near the uſual time of requiring the operation.

The two following inſtances are moſt remarkable, both which ſeem to have originated in the ovarium: the one is that mentioned by Dr. Mead, in his Monita et Præcepta, de Hydrope, of Dame Mary Page, as recorded in Bunhill-fields, who died in the 66th year of her age, was tapped 66 times in 67 months, and had taken away 240 gallons, or 1920 pints of water.

The other caſe is that communicated to the Royal Society, by Mr. Martineau, of Norwich; in which the diſeaſe firſt manifeſted itſelf after a miſcarriage, in the 27th year of the woman's age. She was firſt tapped in 1757, and had recourſe to the operation three or four times in the year, till her death, which happened in 1783; in which ſpace of time, ſhe is ſaid to have had the operation performed 80 times, and in the whole to have loſt 828 gallons and ſeven pints, or 6631 pints of water. Upon diſſection, the left ovarium was found to be ſo enlarged as to form an immenſe pouch, and the peritonæum was greatly thickened, and in ſome parts oſſified.

INFLAMMATION OF THE LIVER.

Description. This viſcus is ſeldom thus affected in temperate climates, but is frequently ſo between the tropics. The ſymptoms are, a dull pain and tenſion in the region of the liver, ſometimes darting towards the ſhoulder and clavicle; nauſea and vomiting, loſs of ſtrength, frequent ſhiverings, and dimneſs of ſight; laborious breathing, watching, coſtiveneſs; and the eyes, ſkin, and urine are commonly tinged with yellow.

Should ſuppuration enſue, the ſymptoms increaſe with languor, the region of the liver grows more and

and more tenſe, repeated rigors come on, and the pain particularly ſtrikes up the right ſide to the top of the ſhoulder. A fluctuation is ſometimes to be felt through the teguments, and they are partially œdematous.

Causes. An acrid or heated ſtate of bile, obſtructed biliary ducts, from heat of climate or an inflammatory diatheſis, and external violence.

Cure. In the early part of the diſeaſe, bleeding both general and local, agreeable to the ſtate of the blood and ſtrength of the patient, and mercurial friction; the bowels ſhould be kept moderately lax with milk whey, or cooling emulſions with neutral ſalts, and a diaphoreſis ſhould be promoted, by means of the opiate tincture, and ipecacuanha or antimonial wine; repeated ſmall doſes of opium will alſo be found neceſſary.

When the inflammatory ſymptoms are rather abated, more eſpecially if the hardneſs and enlargement ſhould continue, rub the part affected with mercurial ointment, in quantity ſufficient to produce a moderate ſpitting; and once in three or four days give a gentle ſaline purge, or give a dram of ſoluble tartar three times a day, in a cup of the common emulſion, or almond milk.

When ſuppuration has taken place, which may be aſcertained by the increaſed pain up the neck and ſhoulder, repeated rigors, the enlargement and tenſeneſs in the region of the liver, and the ſoftneſs and œdematous ſtate of the external parts; and if fortunately ſeated in the convex part of the liver, fluctuation, an inciſion ſhould be made through the teguments, and the abſceſs ſhould be opened as inferiorly as poſſible, with a lancet or trocar, ſo as to procure vent for the matter. The wound muſt be kept open, till the internal parts of the abſceſs collapſes, and the diſcharge becomes inconſiderable; it may then be dreſſed ſuperficially, keeping up a moderate

moderate preſſure on the part, by means of a broad flannel roller, paſſed three or four times round the body.

The bark and a nutritious diet are extremely neceſſary in this ſtage of the diſorder.

If from too great delay, the abſceſs ſhould burſt into the cavity of the abdomen or thorax, the matter muſt be diſcharged by paracenteſis. Should it be ſuffered to lodge in either cavity, the patient will become tabid. One great encouragement towards making the opening ſoon, is the remarkable tendency which abſceſſes in this part have to heal. A canula is ſometimes introduced to preſerve a free paſſage to the matter when the part does not readily coaleſce; but it is an inſtrument ſeldom neceſſary in theſe caſes.

THE LUMBAR, OR PSOAS ABSCESS.

Description. Abſceſſes of this kind generally form before or by the ſide of the internal iliac or pſoas muſcles. The preceding ſymptoms are, an uncommon ſtiffneſs in the loins, attended with an acute pain, which ſhoots along the ſpine down into the thigh, great difficulty to ſtand erect, or turn the limb outwards; rigor, fever, and other inflammatory ſymptoms, but not ſo violent as in phlegmon, the pain alſo is leſs than in common abſceſſes, when ſuppuration takes place. The ſurrounding parts partake but little of the diſeaſe, and the cellular membrane becomes condenſed, into a cyſt, in which the matter is collected, and particularly confined. This cyſt enlarges by ſlow degrees, and inſinuates itſelf behind the peritoneum, the tumour preſenting itſelf in the back, groin, loins, at the ſide of the rectum, or beneath Poupart's ligament, even down to the middle of the thigh. In this ſtage of the diſeaſe, there is ſeldom more pain, except upon exertion of the adjacent muſcles,

than is likely to occur from diſtenſion; the ſkin commonly retains its natural complexion, and fluctuation is to be felt with a forcible impulſe, when the patient coughs.

This tumour, when it reaches below Poupart's ligament, has been taken for a crural hernia; but theſe complaints may be clearly diſtinguiſhed, by a due enquiry into the riſe and progreſs of the diſeaſe, and the moſt prevalent ſymptoms. The hernia appears ſuddenly, and after unuſual exertion, is moſtly accompanied with pain in and about the protruded part, and is tender to the touch; nauſea and vomiting moſt commonly enſue, and fluctuation is not perceivable. Whereas, in the pſoas caſe, it will be found that painful and inflammatory ſymptoms had ſome time before affected the back and loins, that fluctuation is pretty evident to the touch when the patient coughs, and that the tumefied part is not ſo painful upon preſſure, and becomes leſs ſtretched upon lying down.

Causes. This complaint is moſt frequently occaſioned by a violent ſtrain or bruiſe, in the ſmall of the back or loins, or by ſome circumſtance productive of inflammation in the cellular ſubſtance of thoſe parts; ſuch as colds and febrile diſorders, more eſpecially in hectic and cachectic habits.

Cure. The pſoas or lumbar abſceſs might be prevented by timely attention; the moſt likely means for that purpoſe are, bleeding and other evacuations, cupping and ſcarifying, the application of leeches, and bliſters on the parts, alſo a ſeton on the loins: the diaphoretic drops, with laudanum and antimonial wine, alſo promiſe relief at this period of the diſeaſe; but, unfortunately, few patients apply for aſſiſtance previous to the ſuppurative ſtate.

Surgeons of eminence have been ſtrangely prejudiced againſt opening this abſceſs, and have cenſured thoſe ſeverely who have done it; but the ingenious

genious treatiſe lately publiſhed by Mr. Abernethy has done away this objection. This ſkilful practitioner obſerving that the matter was contained in a cyſt which ſuffered gradual diſtenſion, recommends the following treatment from experience:

He tells us, that at firſt he punctured with the hydrocele trocar, but found, on the rediſtenſion of the faſcia, that the preſſure againſt the orifice cauſed it to inflame and ulcerate; he therefore now diſcharges the contents of the cyſt, by introducing a lancet through the integuments, and paſſing it obliquely about half an inch between the ſkin and faſcia, and by depreſſing the point of the lancet, punctures the cyſt. The matter being diſcharged, he cloſes the wound, and heals with adheſive plaſter by the firſt intention.

Should the part not heal kindly, the cyſt ſoon fill again, or the newly healed punctures be irritated by the preſſure of the contained fluid, the pus ſhould be evacuated at an earlier period than uſual, otherwiſe, the ſecond and ſometimes third puncture for diſcharge of matter may be poſtponed for about a fortnight each. Thus, by occaſionally evacuating the contents, the cyſt is gradually diminiſhed and contracted.

The bark and elixir of vitriol, lime water and milk, proper nutritive diet, and a dry mild air, are neceſſary aids: conſtitutional diſeaſe ſhould be particularly attended to.

DISEASED VERTEBRÆ *and* CURVATED SPINE, *with* PALSY *in the lower Extremities.*

DESCRIPTION. Perſons of each ſex, and of all ages, have been attacked with this diſorder. In infants, it is generally ſuppoſed to proceed from weakneſs, or hurt at the birth.

The patient firſt feels languid and inactive, and preſently tires with walking; ſoon afterwards his

ankles and knees grow rather ſtiff, and his toes, pointing towards the ground, occaſion ſtumbling, and, on moving quickly, the legs croſs one another, and throw him down. Upon ſtanding up a ſhort time without ſupport, his knees ſink and totter, and his body bends forward.

As the complaint increaſes, his legs and thighs loſe much of their powers and ſenſibility; ſome being incapable of walking, or even moving in bed; others are able to walk with crutches and to turn themſelves in bed. The curvature, or projection of the ſpine, which is ſuppoſed to be the cauſe, gradually increaſes, affecting one, two, or more vertebræ of the neck or back, but ſeldom thoſe of the loins; the effect of which is only perceived in the lower limbs. Children that are naturally weak, and at the ſame time afflicted with this diſorder in the vertebræ of the back, gradually become deformed throughout the bones of the thorax.

If the curvature is not obſerved, the complaint is commonly ſuppoſed to be of the nervous kind, and medicines of that tribe, with ſtimulating liniments and bliſters, are repeatedly adminiſtered without effect; even when the crookedneſs is attended to, the whole is moſtly attributed to ſome injury ſuſtained on that part; to remedy which, every kind of machinery is applied, in order to reſtore the ſpine to its regular form.

The patient's health does not ſeem to be materially affected at firſt, but by degrees he grows weak, and every way diſeaſed; then conſumes away, or perhaps continues for a length of time in a lingering wretched ſtate, incapable of moving from the chair or bed, and the curvature ſtill increaſing, is ſeverely afflicted with a train of miſerable complaints.

From repeated diſſections, at different periods of this diſeaſe, it appears, that in thoſe who had not been long afflicted, the ligaments were thickened and relaxed, and the bones rather enlarged; that when the diſ-

eaſe

caſe was of ſome ſtanding, thoſe appearances were more conſiderable, and the cartilages between the vertebræ were greatly compreſſed and diminiſhed; and that in ſuch perſons as were in the laſt ſtage, and died from its conſequences, the vertebræ were found to be carious, the cartilages were deſtroyed, and a quantity of ſanious matter was lodged between the bones, and the membrane which covers the ſpinal marrow.

Causes. A morbid ſtate of the ligaments and bones, at the part where the curvature firſt appears; of which the latter is the effect and not the cauſe.

Cure. The mode of treatment recommended for the cure of this diſeaſe, is ſaid to ſucceed generally in the firſt ſtage, and frequently in the ſecond, except when the ſpine is greatly and firmly bent; and even in that caſe, a conſiderable degree of ſtrength has returned, and the patient has been known to walk alone: but the third ſtage is moſtly attended with fatal conſequences.

The remedy conſiſts in keeping up a ſtimulus and diſcharge on each ſide of the projecting or curved part of the ſpine, by iſſues made by cauſtic, which is to be applied in an oval ſhape, and of proper ſize in adults to produce an eſchar an inch and a half in length, on each ſide the curve or projection. When the ſloughs begin to ſeparate, the middle part is to be cut out, and a large French bean to be placed in each of them; as ſoon as they are clean, a ſmall portion of cantharides, finely powdered, may be ſprinkled on the ſores, by which they will be kept open, and the diſcharge will be increaſed.

Theſe iſſues are to be continued, at leaſt till the patient is able to walk, or till he ſo far recovers the ſtrength and tone of the ligaments as to get upright. Both iſſues ſhould not be healed together, and the remaining one may be continued till the patient can walk firmly. The bark, cold bathing, ſteel, and

other tonic remedies, ought to be adminiſtered during the proceſs. It is proper to obſerve particularly, that the cure will be much forwarded by keeping the body as much as poſſible in a recumbent poſture; ſo that the ligaments and cartilages between the vertebræ, be as free from the preſſure and weight of the body as poſſible.

The world is highly indebted to Mr. Pott for the many uſeful diſcoveries and improvements which he brought forward in ſurgery, particularly for his accurate inveſtigation of this complaint; which, from its having been miſunderſtood for ſo many ages paſt, we may almoſt venture to ſay he was born to elucidate.

HERNIÆ, *or* RUPTURES *in* GENERAL.

DESCRIPTION. The hernia is a tumour formed by the inteſtine, or omentum, or both, falling out of the abdomen into ſome other part. The appellation of this, as well as ſome other diſorders to which the human frame is ſubject, is not ſtrictly applicable to the complaint. Every kind of rupture, as it is called, being occaſioned by dilatation of the peritoneum, and the orifice through which it makes its way, and not by laceration.

It has various denominations, according to the ſituation or nature of its contents. For inſtance, when theſe parts protrude at the navel, it is called *Exomphalos*, or *Hernia Umbilicalis*; between the interſtices of the abdominal muſcles, *Ventralis*; through the rings of the abdominal muſcles into the groin, *Inguinalis*; if confined in the tunica vaginalis, *Congenita*; into the ſcrotum, *Scrotalis*; which three laſt are commonly called Bubonocele. Should they fall under the ligamentum poupartii, or inferior border of the tendon of the oblique muſcle, *Femoralis*, or *Cruralis*; or if through the foramen ovale of the os pubis, by ſome called the great foramen of the iſchium,

chium, its appellation is *Hernia Foraminis Ovalia.* The urinary bladder alſo forms a ſpecies of Hernia, when forced through the opening of the oblique muſcle, or under Poupart's ligament, and is called *Hernia Cyſtica.* In ſhort, every part contained in the belly or pelvis, by a dilatation of its containing membrane, is capable of producing tumours of this kind. When the inteſtine only is prolapſed, it is called an Enterocele; the omentum, *Epiplocele*; and when both, *Entero-Epiplocele.*

Herniæ may be diſtinguiſhed from other tumours, by the particular part where the injury happens, and by the ſwelling returning with or without preſſure, upon lying down, unleſs when it adheres or is incarcerated. If the prolapſed portion be inteſtine, the tumour is ſmooth, flatulent, and ſoft to the touch, alſo ſmooth and even to the ſight; hard excrement is ſcarce ever to be felt therein, ſo that being devoid of ſuch fæces, it ſends forth a murmuring guggling noiſe. The induration from tenſion is ſometimes miſtaken for hardened excrement; but fæces retained in the ileum are commonly thin, which for want of due care has been unfortunately proved in the operation for the bubonocele. When the hernia contains omentum, unleſs in the inflamed ſtate, it is rather flaccid and more compreſſible; and in ſome caſes, it feels uneven; ſhould the contents be both inteſtine and omentum, the different marks are ſcarcely to be diſtinguiſhed. When the hernia has been of long ſtanding, the ſac moſtly adheres to the adjacent parts, cannot be perfectly returned, and the ſcrotum feels thick and rather corrugated.

Many perſons have fallen ſacrifices to extreme delicacy, by not taking notice of this complaint in due time; indeed it very ſeldom happens that a rupture proves dangerous, but from the patient ſuffering it to remain in the prolapſed ſtate too long, before proper aſſiſtance is called: very few caſes would

prove more than troubleſome, were the contents, when in a moveable ſtate, properly reduced, and ſecured by an accommodating truſs. In caſes of this ſort, neglect and falſe delicacy too often prove the parents of danger. Modeſt women are greatly diſtreſſed upon theſe occaſions; and the beſt way for the practitioner to get at the truth is, to enquire ſtrictly where the pain is moſt acute; if in or near the navel or groin, let him openly declare his ſuſpicions of a ſwelling being formed in that part, to a female friend or attendant, and act according to her report.

Women are moſt ſubject to hernia umbilicalis, ventralis and femoralis; men and children to bubonocele.

Causes. The hernia may proceed from relaxation in the orifice through which it protrudes, from violent exerciſe, falls, ſtrains, blows, jumping or vehement exertion of ſtrength, and difficult labour; crying, and violent ſtraining is the frequent cauſe in children.

Cure. The cure of herniæ that are free from inflammation and adheſion, conſiſts in reducing them when down, and preventing relapſe by the application and conſtant wearing of a truſs. The method of reducing the hernia with the hand is as follows:

Place the patient on his back, with his buttocks much higher than his head, raiſing the thigh of the diſeaſed ſide; graſp the lower part of the ſwelling with the hand, and forcibly preſs it back towards the aperture, endeavouring now and then artfully with the fingers, to inſinuate that part which is neareſt the opening. If the patient ſuffers much pain or fatigue, leave off preſſing for a time, and uſe one or more of the following means:

Bleeding, and repeated applications of cloths dipped in cold water, for ſeveral hours, or a ſolution of crude ſal ammoniac in vinegar and water; cold applications, ſuch as ſnow, ice, &c. in preference

ference to warm fomentations, which have little or no effect towards relaxing the tendinous expanſion, and principally tend to rarefy the confined air, and increaſe diſtenſion. Stimulating enemas repeatedly injected, and tobacco glyſters made from a decoction of the leaves, or with an infuſion of the cut tobacco after the manner of tea, both which will have equal effect with the fumes.

Latta, of Edinburgh, in his uſeful treatiſe on ſurgery, recommends repeated injections with a ſolution of Caſtile ſoap, in the proportion of one drachm and an half to a pint of water, as more effective in evacuating the colon and the ſmall inteſtines, between the cœcum and the conſtricted part.

Væneſection to twelve ounces, followed by the warm bath and a doſe of Dover's powder, have proved ſucceſsful, when the gut had been down two days, and the parts were too tender to bear handling. A profuſe ſweat broke out, and in two hours time the ſtricture gave way to gentle preſſure. Two glyſters had been adminiſtered previous to the bath, but both came away without fæces.

Cold applications, ſuch as large linen cloths dipped in cold water, or with crude ſal ammoniac diſſolved in it, daſhed upon the protruded part, the abdominal region, and the thighs, and freſh applied; ſnow, and ice alſo, if to be had, are eſteemed efficacious means, in the early part of the ſtrangulation; but the before mentioned author adviſes, the previous application of ox-bladders half filled with warm water, to the whole of the abdomen, except near the tumour, with deſign to relax the muſcles.

Mr. Sharp, in his Critical Enquiry, recommends ſuſpending the patient, with his head downwards, and his hams bent, upon the ſhoulders of a ſtrong man; and ſays, that this method has often ſucceeded.

In caſes of this nature, little is to be expected from purges given by the mouth, as they ſeldom get

beyond the ſtomach. Salts, diſſolved in a large quantity of water, and taken by cupfuls, are likely to paſs the ſtomach and duodenum; but perhaps a large doſe or two of calomel with opium may have better effect than medicines in a liquid form. Suppoſitories made with ſalt, honey, and aloes, are alſo ſaid to be uſeful. Dr. Mead preſcribed two of the following pills, to be given every hour or two, with a cupful of the ſolution of ſalts.

Cathartic extract, half a dram, calomel ten grains, opium two grains; to be made into ſix pills.

If ſuch efforts ſhould prove ineffectual, and ſymptoms of inflammation, &c. increaſe, to ſuch a degree as not to admit of handling the part without extreme pain, the operation becomes the only reſource, for which no preciſe period can be regularly pointed out. In ſome caſes, a reduction has taken place after ſeveral days extreme pain; at other times, a gangrene has come on upon the ſecond day. The nature of the patient's habit, the ſtrength of his conſtitution, the means which have been purſued, and the ſymptoms, ought all to be conſidered before the operation be abſolutely determined upon. On the other hand, to wait till the pain and tenſeneſs of the part ſubſide, the pulſe grows languid, and cold ſweats and fainting approach, little good is to be expected.

The French ſurgeons are ſaid to be particularly adroit and ſucceſsful in this operation, which may chiefly be attributed to their frequent and early performance of it. But to decide alone in a matter of ſo much conſequence, when the judicious opinions of others can be obtained, would be the very height of vanity and imprudence; a ſuitable conſultation is therefore adviſeable to the moſt ſkilful. The mode of operating is deſcribed under the following article.

HER-

HERNIÆ *in* PARTICULAR.

Bubonocele. The word bubonocele ſtrictly ſignifies a tumour in the groin; but is commonly underſtood to mean, ſuch a hernia as not only falls into the groin, which is more expreſsly termed inguinalis, but alſo thoſe that deſcend into the ſcrotum in men, or the labia pudendi in women.

It is known by the tumour extending itſelf from the rings of the abdominal muſcles to the parts before mentioned. It moſtly comes on by ſlow degrees, but ſometimes is ſuddenly produced by violent exertion, and other cauſes: and in habits particularly diſpoſed to inflammation is liable to immediate ſtrangulation, although ſlightly protruding. In common, it is moveable from the firſt of its prolapſed ſtate, as generally proceeding from relaxation; in which caſe it returns, upon lying down, by itſelf, or with a ſlight degree of preſſure, producing a guggling noiſe. The external tumour, in the ſtrictured ſtate, is hard and inflamed; the patient ſuffers acute pains attended with heat and vomitings, firſt of aliment mixed with bile, afterwards, of excrement; hiccuping, cold ſweats, and extreme languor ſoon follow, which ſymptoms portend gangrene and a ſpeedy diſſolution. Previous to the increaſe of ſymptoms, when every probable effort has been tried without effect, the operation becomes the only reſource, which is to be performed after the following manner:

The pubes and groin being clean ſhaved, let the patient be laid upon his back, on a table about three feet four inches in height, with his legs hanging down; and after he is properly ſecured, begin the inciſion with a ſtrait diſſecting knife, juſt above the rings of the muſcles, and carry it through the ſkin and adiſpoſe membrane down to

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the lower part of the tumour; ſecuring ſuch veſſels as may require it, before you proceed. After having divided the integuments, make an opening into the protruded peritonæum, or hernial ſac, by pinching it up between the fingers, or rather raiſing it up with the hook, or tenaculum, and cautiouſly dividing its fibres with the knife, about two inches below the ſtricture, ſo as to admit the forefinger; upon which, as a director, paſs a narrow bladed curved knife with a probe point, keeping the end of the latter all the way rather ſhort of the former, up to the ring, and down to the bottom of the inciſion in the ſcrotum. On the firſt opening of the ſac a ſmall quantity of ſerous lymph will moſt frequently diſcharge itſelf; and when it is fully laid open, the inteſtine puſhes out, and ſeems to be more in quantity than expected, except confined with the omentum.

The inciſion at the ring is now to be made, and it ſhould be large enough to admit the end of the finger to paſs round the inſide of it, in caſe of adheſion; it muſt be done with the probe pointed knife, planted on the finger as before directed, taking care to preſs the gut down with the back and fore part of the finger, and carrying the point of the inſtrument between that and the ring; this inciſion may be made about an inch in length upwards; the ſac and ſtrictured part being cautiouſly laid open, the ſtate of the hernial contents are next to be inſpected. If ſound and looſe, they ſhould be returned as ſoon as poſſible; in doing which, the fingers muſt be applied to that part of the inteſtine which is next the meſentery; and the part which came forward laſt, is to be ſlowly and gently preſſed in, firſt obſerving to elevate the leg and thigh, which will greatly facilitate the return.

The prolapſed part being reduced, examine the ſac, a portion of which if large, thick, and hard,

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ought to be removed with the knife; taking care not to come near that part with which the ſpermatic veſſels are connected.

The next thing to be conſidered is, what ought to be done when the parts are too unſound to be returned. If any part of the omentum be unfit for reduction, let it be expanded, and be removed with a pair of ſtrait ſciſſars, juſt within the edge of the altered part: which will render ligature to prevent hæmorrhage unneceſſary.

When the inteſtine is gangrenous, and there is a danger of the part ſeparating after the reduction, the upper part ſhould be connected with the wound by ſuture; in doing which, the needle muſt be paſſed through the meſentery, at a diſtance from the gut, including ſuch a portion of that membrane as may favour the junction, and, at the ſame time, not to injure the gut. If the inteſtine be in ſo bad a ſtate as to require diviſion, and the ſound parts of the divided ends can be brought together, one end muſt be paſſed into the other, and they ſhould be ſewed together by a ſimple ſtitch or two; and faſtened to the inſide of the belly at the upper part of the wound, for the chance of adheſion to the internal part of the wound and to one another; or of forming an artificial anus, provided the ends ſhould not unite; the ends of the ſtitches may be cut off cloſe, and left to be caſt off. The moſt favourable part of this proceſs is extremely hazardous, but proofs are not wanted where, in the worſt of theſe ſtates, it has been attended with ſucceſs.

When the parts do not adhere to the ſac, and are eaſily returned, a ſtitch or two made through the teguments will be adviſeable, with ſlips of adheſive plaſter in the intervals; lint, ſpread with cerate, gentle compreſs, and retentive bandage. In every caſe, the patient is to be kept upon his back, and a proper truſs ſhould be worn after the wound is healed. The wound muſt not be dreſſed a ſecond

cond time till the third or fourth day, unleſs the diſcharge is great and of a bad quality: light regimen, quietude, and every kind of medicine that will allay febrile heat ſhould be ordered. *See Wounds in General.*

The bubonocele in women ſhould be treated after the ſame manner with that of men, and the ſame kind of truſs will be neceſſary. Thoſe ruptures which adhere greatly to the ſcrotum, are only to be ſuſpended in a bag truſs: they ſeldom do well after the operation.

Hernia Congenita. There is alſo a diſtinct kind of rupture called congenita, which ſome time ago was not diſcriminately attended to. The ſac that contains the inteſtine or omentum in this kind of hernia, is formed by the tunica vaginalis teſtis; the prolapſed portion having intruded itſelf into the bag which forms that tunic, and having been thruſt forth from the body in contact with the teſtis, at the time when that part deſcended by the groin into the ſcrotum.

This complaint generally begins in the early ſtate of infancy: when therefore a rupture has been known to exiſt from that period, it may be conſidered as one of this kind. To diſtinguiſh it more clearly from the common hernia, let it be obſerved, that its ſac is generally leſs diſtended than the other, is more of a pyriform figure, and is ſcarce ever remembered to have been lodged in the groin, unleſs accompanied with the teſticle. The parts are much ſubject to adheſion, and are often connected with the teſtis itſelf; and it will require great dexterity and care to ſeparate them. A quantity of fluid collected in the ſac, and confined at the entrance above, has been known to give the appearance of a common hydrocele; but a ſtrict enquiry into the previous ſtate of the tumour will obviate every kind of miſtake.

This ſpecies of rupture ought to be particularly attended to in its early ſtage; and when reducible,

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is to be kept up by proper bandage or truſs; if ſtrictured, it muſt be treated as in the bubonocele, but requires a cautious management of the knife, after the teguments have been divided, by repeated ſlight inciſions; the vaginal tunic being the containing ſac, and the contents, either adhering or lying cloſely contiguous thereto.

Hernia Umbilicalis, or Exomphalos. The umbilical or navel rupture is formed by a protenſion of the hernial ſac through the navel, and its contents are the ſame as in other ruptures. A great quantity of omentum is ſometimes found in thoſe of long ſtanding, and infants and women are moſt ſubject to this diſorder; the firſt from the ſeparation of the funis, the laſt from child-bearing. Some of the latter are large, yet eaſy to be reduced, others quite immoveable, and many have been kept up for years without much trouble; but perſons advanced in life have frequently been ſubject to pain and weakneſs in the bowels from them.

In young perſons, when they are ſmall, and do not adhere, they are to be cured by proper bandage or truſs. If ſtrangulated, the operation muſt be performed; but when large and adhering, it has ſeldom been attended with ſucceſs. It is to be done on the ſame principle with that of the bubonocele. Caſes are recorded where the mortified part has been removed both by art and nature, and the fæces have made a conſtant paſſage through the opening.

Hernia Ventralis, is, when the parts portrude between the interſtices of the muſcular fibres of the abdomen, which diſorder is moſtly obſerved to happen near ſome part of the linea alba. This hernia, in its recent ſtate, may be kept in with a proper truſs, otherwiſe it is apt to increaſe to a great bulk; if ſtrangulated, the opening muſt be cautiouſly dilated.

Hernia Femoralis. This rupture makes its deſcent into the thigh, through the arch made by the os pubis

pubis and the ligamentum fallopii, where the iliac veſſels and tendons of the pſoas and iliacus internus muſcles paſs from the abdomen, and is more frequent in men than in women. In endeavouring to reduce it with the hand, it muſt be preſſed upwards, rather towards the pubis than the ileum. Should the operation prove neceſſary, it is right to obſerve, that the inciſion in a male ſubject be made obliquely outwards, to avoid the ſpermatic veſſels, and that there is danger of injuring the epigaſtric artery, which would be difficult to take up without hurting the large veſſels. Conſidering the great ſpace between the ilium and pubis, which is chiefly occupied by cellular membrane and fat, it would be right firſt, to attempt the return of the prolapſed part without dividing the tendon; but if a diviſion be abſolutely neceſſary, the inciſion ſhould be made as ſmall as can be done with propriety, with the probe-pointed knife, on the end of the fore-finger, held tight under the edge of the tendon, proceeding further as already adviſed.

Hernia Foraminis Ovalis. This ſpecies of hernia very ſeldom happens, and has been only attended to of late years; it deſcends through the foramen ovale of the os pubis. In men it protrudes in perinæo, in women near to the labia pudendi. This is to be treated after the manner heretofore directed.

Hernia Cyſtica. A portion of the bladder may make its deſcent through the ring of the abdominal muſcle into the groin and ſcrotum, or under Poupart's ligament. This hernia is generally attended with the bubonocele, of which it may be either the cauſe or conſequence.

The ſimple hernia cyſtica lies upon the ſpermatic cord; the complicated, between that and the bubonocele. Both kinds are to be diſtinguiſhed by tumour with fluctuation, which will recede upon preſſure, or from a diſcharge of urine. In women this hernia is moſt likely to fall under Poupart's ligament,

ment, and inſtances are recorded where it has paſſed between the anus and vagina, and projected in perinæo; it may alſo be complicated with a prolapſus vaginæ.

Mr. Keate has lately favoured the world with a curious account of a hernia cyſtica, conjoined with an inguinal rupture and a hydrocele; alſo, of the ſalutary effects of ice when liberally applied to the bubonocele.

When the bladder can be reduced, a truſs, as in other caſes, ſhould be applied; if adhering, it muſt be ſuſpended only. Should an inciſion be made by miſtake into the part, or in conſequence of inflammatory ſtricture at the ring, a catheter muſt be kept in the bladder for the purpoſe of carrying off the urine, and facilitating the cure of the wound. This hernia proves the neceſſity of being circumſpect in opening tumours of theſe parts.

DISORDERS OF THE SCROTUM.

HYDROCELE, WITH ITS DISTINCTIONS.

Theſe diſorders, which are termed ſpurious or falſe herniæ, derive their names from the parts in which they are ſeated; for inſtance, hydrocele of the tunica communis, &c. from the change in their natural ſtructure, ſuch are, circocele, varicocele, and ſarcocele; to which may be added, the inflammatory diſeaſe of the teſticle, called Hernia Humoralis.

DESCRIPTION. The term hydrocele is arbitrarily confined to the watery tumours which are formed within the membrane of the ſcrotum, the coats of the ſpermatic veſſels, and of the teſticles. The firſt commonly proceeds from a general anaſarca, and is frequently carried off by punctures in that or ſome more depending part of the body; the latter are local, and may be divided into three diſtinct

heads; the firſt of which is a collection of water, formed in the cells of that part of the cellular membrane called tunica communis, which covers and connects the ſpermatic veſſels; the ſecond is, when it is formed in one cell only of the preceding tunic, and is termed the encyſted hydrocele of the tunica communis; the third is produced by a fluid collected under the tunica vaginalis teſtis.

CAUSES. All theſe membranous parts are ſupplied with a fluid that keeps the contained part from adheſion; which fluid, either from a defect in the abſorbent veſſels, or an increaſed ſecretion, or both, becomes accumulated within the confined cavity, and by gradual diſtenſion, forms a tumour.

PARTICULAR DESCRIPTIONS AND CURE.

Hydrocele of the Cells of the Tunica Communis. When this tumour is of moderate ſize, the ſcrotum diſcovers no diſeaſe except at the time when the ſkin is corrugated, it then appears fuller, and hangs lower on the diſeaſed ſide, and on being ſuſpended lightly in the hand, is heavier than common; the teſtis and epididymis may be diſtinctly felt below in their natural ſtate, and the ſpermatic cord is much thicker. The form of this tumour is pyramidal; it gradually recedes upon preſſure, and returns as ſoon as that preſſure is withdrawn; it is attended with a ſlight pain in the loins, and when the extravaſation is confined below the ring of the oblique muſcle, the cord may be diſtinctly felt. If the cells within the abdominal ring be affected, the diſtended membrane feels not unlike the epiplocele; when this is the caſe, and the tumour is large, it becomes exceedingly troubleſome, and the cure is hazardous.

Encyſted Hydrocele of the Tunica Communis. This tumour is ſeated in the ſame part with the preceeding, except that the water is contained in one cell, forming a cyſt. It generally fixes in the middle of

the cord, and is of an oblong figure; it is moſtly ſo tenſe as to prevent fluctuation, by which means it has often been miſtaken for what never has exiſtence; namely, a wind rupture. It gives the perſon no pain, and ſounds when ſtruck as if it contained wind, not water. It is ſometimes complicated with a true hernia, or the vaginal hydrocele. Infants are more ſubject to this diſorder than adults, and it is often diſperſed in young children by warm fomentations, and keeping the belly open. Mr. Keate's epithem, as deſcribed at the latter part of this article, is perhaps preferable to warm applications. Diſcharging the fluid by puncture with a lancet, has alſo proved ſucceſsful with children. In adults, the cyſt is ſometimes ſo thick as to require an inciſion to be made its whole length, which, in good habits, may be done with ſafety.

The Hydrocele of the Tunica Vaginalis Teſtis, or bag which includes the teſtis, is a common diſeaſe, and perſons of all ages are ſubject to it. It is ſometimes produced ſuddenly, at other times it advances ſlowly; is of various ſize and figure, for the moſt part round, but as it increaſes becomes largeſt downwards. With ſome it is hard, when the teſtis is to be felt with difficulty; with others it is ſoft and lax, which particularities afford an opportunity of eaſily diſtinguiſhing it. It gives no great pain except in the back, from its weight, and may be diſtinguiſhed from a hernia by feeling the upper part of the ſpermatic cord. When that part is not to be felt, it is moſt probably combined with an enterocele. In its ſimple ſtate, it may be known from every other tumour of its kind, by a firmneſs and hardneſs at the poſterior and middle part of the tumour, owing to the junction of the tunica albuginea and vaginalis; whereas, in every other hydrocele, the fluctuation is felt equally in every part. By this circumſtance alone, it may be diſtinguiſhed from the anaſarcous tumour of the ſcrotum, which is every where alike

ſoft and ſwelled; from the encyſted hydrocele of the cord, which though circumſcribed is not compreſſible, but the ſame to the touch in every part; and from enterocele, by the teſticle being generally found at the inferior part of the ſwelling.

The treatment is either *palliative* or *radical*; the firſt, by diſcharging the fluid; the laſt, by deſtroying the cavity of the bag, or by adheſion of the membranous parts.

The palliative remedy is performed by puncture, with the common lancet or the trocar: Lint and plaſter are generally applied to the little wound, and the ſcrotum, if large, is to be ſupported by a bag-truſs. The orifice commonly heals ſoon, but in ſome habits it has been known not to terminate ſo readily, conſiderable inflammation having followed. The fluid ought to be drawn off in this diſeaſe much earlier than it is, waiting only till the part is ſo far filled as to admit of its being done with ſafety; ſuch treatment is very likely to prevent return.

Various means have been uſed for the radical cure of the hydrocele; inciſion, cauſtic, injections, tent, and ſeton; and they have been all warmly eſpouſed. The curative intention is, to bring on inflammation in ſufficient degree to produce adheſion in the tunics without alarming ſymptoms. The more gentle then and leſs irritating the method is, if equal to the taſk, the more entitled to preference; upon a comparative view, no one promiſes better, and has been ſupported by more reſpectable authority, than thoſe by ſeton and injection. The inſtruments uſed for the cure by ſeton, on the improved plan, are as follows:

A trocar, with its canula nearly one fourth of an inch in diamater; another canula, called the ſeton-canula, made of ſilver, of fit diameter to paſs eaſily through the canula of the trocar, the length of which ought to be five inches; and a probe ſix inches and a half long, with a fine ſteel trocar point

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at one end, and an eye at the other, ſufficient to carry a ſeton of coarſe white ſewing ſilk, that will paſs without trouble through the ſeton canula.

The operation is thus performed: perforate the inferior and anterior part of the tumour with the trocar, withdraw the perforator, and when the fluid is diſcharged by the canula, paſs the ſeton canula through that of the trocar, ſo as it may reach the upper part of the tunica vaginalis, and may be felt in the ſuperior part of the ſcrotum; then convey the probe, armed with ſilk, through the ſeton canula, and pierce the tunic and teguments with its point; which done, draw the ſeton through the canula, and leave a proper length out at the upper orifice, then withdraw both the canulas.

This operation has been much improved by the particular attention of Mr. Howard, of the Middleſex Hoſpital; who, in a pamphlet that diſplays much judgment relative to the ſubject, has obſerved, that fewer threads will do in general, and that conſequently the trocar and canula may be leſs in ſize than has been uſed. He adviſes a few threads to be drawn from the middle of the ſeton when the inflammation runs high; and is of opinion, that in ſome irritable habits, eight or ten threads will do from the firſt; alſo, that the inflammation may be regulated by increaſing or diminiſhing the number of threads.

As ſoon as the operation is finiſhed, the patient ſhould be put to bed, and twenty or thirty drops of laudanum may be given, and be occaſionally repeated. About the ſecond or third day, the teſtis and ſcrotum will begin to inflame and ſwell; then foment, poultice, and ſuſpend the part: order alſo a cool temperate regimen, and keep the body open. As ſoon as inflammation is abated, the patient may be permitted to lie on a couch, or ſit in an eaſy chair with his legs raiſed; and a doſe of bark may be taken three times a day. A pulſe quicker than

natural, a white tongue, thirſt and reſtleſſneſs, a ſlight degree of pain in the part, and ſometimes in the loins, are the general ſymptoms attending this operation, particularly when regulated by Mr. Howard's judicious precautions.

At the expiration of ten or twelve days, the ſoreneſs and ſwelling are generally diſperſed, when it will be time to withdraw the ſeton; which ſhould be done by taking out a few threads at a time. A ſoft pledget of lint ſpread thin with white cerate, is to be applied over each orifice from the firſt of the cure, and the ſaturnine cerate over all. In ſome conſtitutions, it has proved neceſſary to remove the whole of the ſeton, as ſoon as the parts become moderately inflamed.

By this method, for which, in its improved ſtate, the world is indebted to that great ornament of the profeſſion Mr. Pott, the parts are preſerved entire; and except in irritable or bad habits, when properly managed, more inflammation is ſeldom produced than is neceſſary towards coheſion: and when otherwiſe, it is more likely to be checked by cold applications than hot ſomentations and emollient poultices.

There are four methods of operating for the radical cure now in practice, every one of which has its ſupporters; viz. by ſeton, cauſtic, ſimple inciſion, and injection. Inflammation is the natural conſequence of each, and muſt be more or leſs, according to the nature of the conſtitution, and the greater or leſs expoſition or irritation of the membranous parts.

The operation by *Seton* is already deſcribed.

The mode of uſing cauſtic is preſcribed as follows: apply a piece of cauſtic paſte, about the ſize of a ſixpence, well guarded with adheſive plaſter, on the anterior and inferior part of the ſcrotum; remove it at the end of five or ſix hours, then apply a large ſuppurative poultice, and ſuſpend with a proper bandage.

The eſchar generally ſeparates in a few days, and the tunic ſloughs out in about five or ſix weeks, when the ſore begins to heal. This method, under the conduct of the late Mr. Elſe, whoſe early death was a public loſs, was much more ſucceſsful than might be expected.

The operation by *Simple Inciſion* is done after the following manner: the patient being properly ſecured by two aſſiſtants, let the operator graſp the tumour firmly with one hand, and divide the teguments with the other, making one inciſion from the upper part of the tumour anteriorly, down to the moſt depending part; the tunica vaginalis being thus laid bare, an opening is to be made with the lancet, at its upper extremity, large enough to admit the fore-finger, on which the probe-pointed biſtoury is to be conducted, dividing the ſac in the courſe of the inciſion to the lower part of it. If the ſac be much thickened or hardened, a portion of each ſide of it may be removed. When the teſtis protrudes let it be gently preſſed back, and kept ſo with a long ſlip of lint placed between that and each edge, and hanging out at the bottom of the wound; the other dreſſings ſhould be ſoft lint, a compreſs of ſoft linen rag, and the ſuſpenſory or T bandage. About the third or fourth day, warm fomentations, and the bread poultice were formerly uſed till the parts digeſted, and inflammation abated; afterwards as in common—but cold applications from the firſt are now preferred, and the cure is generally attempted by means of adheſive inflammation, which chance renders this mode of operation far leſs objectionable than heretofore; in fact, preferable to any other, when the tunics are likely to be much thickened, or the teſtis is diſeaſed; beſides, there is a full opportunity of inveſtigating every part, and rendering the cure at once complete.

The mode of cure by injection is performed by throwing into the ſac, after the water has been let

out by puncture with the trocar, red wine, diluted with from one to two thirds of water, more or leſs, according to the irritability of the parts, in ſufficient quantity to be diffuſed over the whole cavity; which may be more perfectly effected by handling and changing the poſition of the parts; it ſeldom requires to be retained more than a minute or two, but this muſt be according to the ſenſe of pain produced by it, and the irritability of the parts.

Surgeons of former times certainly practiſed this mode of cure, but the compoſitions they uſed were extremely irritating, conſequently productive of much pain and inflammation, and even of a total ſolution of the parts; from which circumſtances this method fell into general diſrepute. It is to the ingenious ſucceſſor and ſon-in-law of Mr. Pott, that we are indebted for the revival of the curative proceſs by injection; who, in his valuable edition of that gentleman's works, has illuſtrated its effects by reciting ſeveral caſes which were attended with extraordinary ſucceſs. He particularly recommends the vinous injection alone, or modified ſo variouſly with the addition of water as to be effective without exciting more than neceſſary ſtimulus: but it appears to be much more likely to ſucceed in the early ſtage of the diſeaſe, than when the membranous parts are much diſtended and thickened.

Mr. Keate, an eminent and very creditable ſurgeon, has lately publiſhed an ingenious pamphlet, recommending the free uſe of a topical application for the cure of the hydrocele. It conſiſts of ſal ammoniac 1 oz. Rectified ſpirit of wine, and vinegar, of each 4 oz. He has given ſix caſes of its happy effect; two from its application after tapping, the other four by exciting abſorption without perforation. Should this practice only ſucceed in a few recent caſes, it will prove a welcome remedy. Mr. Earle, in his treatiſe on the Radical Cure by Injection, takes notice of two trials of this diſcu-

tient, in both which it excited much external inflammation, without any good effect.

Circocele and Varicocele. The firſt complaint is a varicoſe diſtenſion, or tortuous enlargement of the ſpermatic veſſels of the cord, ſeated on that proceſs ſomewhere between the abdominal ring and the teſtis, moſt commonly juſt below the ring, where it reſembles to the touch a protruſion of the omentum. The *Varicocele* is deſcribed as a nodous tumour of the ſpermatic vein, or the veins of the ſcrotum; all theſe diſeaſes are moſt probably occaſioned from obſtruction by preſſure, or relaxation.

The *Circocele* is a rare diſeaſe, ſometimes appears ſuddenly, and in inflammatory habits is attended with much pain; requiring venæſection, opiates, and cooling medicines; externally, the remedies preſcribed under the article *Inflammation*, with the ſuſpending bandage. The conſequence is ſeldom very material, except when the teſticle, although apparently unconcerned, falls into a waſting ſtate. In common caſes there is little or no neceſſity for medicine. Former practitioners attempted its cure, when extremely painful, by means of cauſtic and ligature; but ſuch ſevere treatment has long been diſcarded: Heiſter adviſes the varicoſe part to be opened by inciſion, but this only in very painful caſes; and under ſuch circumſtances the means above preſcribed, and a recumbent poſture, are moſtly effective.

SARCOCELE.

Description. This diſeaſe is an induration and enlargement in the body of the teſtis, which in time becomes ſcirrhous, and ſometimes degenerates into cancer. The epididymis is alſo ſubject to the ſame diſeaſe; and this appendicle has been known to grow ſo hard, and ſwell to that degree, as to be miſtaken for an adventitious ſwelling in the teſtis. Induration

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in the epididymis has continued for years, and at laſt ſuppurated; and its conſequence is not ſo much to be dreaded, whilſt the glandular part remains ſound; but ſhould the latter become ſcirrhous and cancerous, the epididymis muſt in the end be ſo too.

Scirrhous tumours of the teſtis as well as thoſe of the breaſt, have been known to continue in an indolent ſtate for many years. Some ſurgeons of eminence have given it as their opinion, that the latter ſhould be extirpated in the early ſtage, but that the former ſhould be ſuffered to remain till ſome particular change may require it, ſuch as increaſe of pain and ſize: ſtill when the teſtis is extremely hard and uneven in its ſurface, attended with darting pains, and gradually increaſing, particularly if the ſpermatic cord be much affected, ſurely delay is dangerous. The ſarcocele, in the firſt ſtage, is attended with little or no pain; but as it increaſes in hardneſs and magnitude, it cauſes a great ſenſe of weight in the loins, and acute lancinating pains, which ſtrike along the cord up to the ſmall of the back.

Causes. It may ariſe from nips, blows, &c. and from inflammation in the part, or in the ſpermatic proceſs.

Cure. An alterative courſe of calomel with cicuta, has proved ſucceſsful in the more early ſtate; and electrical ſhocks through the part, daily repeated for a length of time, have been known to reduce the tumour, in ſo great degree as to ſet aſide an apparent neceſſity for the operation. Vide *Scirrhus*.

In addition to what has been remarked already reſpecting extirpation, it is advanced by men of eminence alſo, that the operation has been often unſucceſsful in the milder ſtage of ſcirrhus, and has anſwered well in its moſt advanced ſtate. This remark gives us therefore to underſtand, that caſtration

tion ought not to be adviſed without immediate neceſſity, and that ſucceſs ſhould not be deſpaired of at the lateſt ſtage of the diſorder. Yet let it be obſerved, that when the cord is thickened, and *indurated* at or above the ring, and much pain is felt in the back whilſt the part is ſuſpended, and the patient is lying in bed; the caſe is too deſperate to expect ſucceſs from ſuch an attempt.

This complaint has originated in the cavity of the abdomen, from inflammation near the courſe of the ſpermatic veſſels, which produced thickneſs down the cord with great pain, and much tumour and induration in the right teſtis. Repeated bleedings, cold applications, and the cuſtomary medicines, relieved the pain, and rather leſſened the tumour: ſoon after, the left teſtis and cord became ſlightly tumefied and inflamed, but yielded readily to the ſame remedies. The inflammation again flew to the right teſtis, which grew larger and more indurated; and was accompanied with greater pain in the back and down the cord, than in the teſtis. Not long after this relapſe, the patient was abruptly removed from thoſe who had firſt attended him, and were fully acquainted with the riſe and progreſs of the diſeaſe: the teſtis was extirpated, probably during the inflammatory diatheſis, and, in a few days, the patient died; probably mercurial inunction might have anſwered, the operation was a haſty deciſion.

The direction for performing caſtration is as follows: place the patient horizontally on a table, with his legs hanging down, and properly ſecured by aſſiſtants; firmly graſp the tumour with one hand, and with the other make an inciſion down the courſe of the ſwelling, through the cutis, cellular membrane, and dartos, beginnig an inch at leaſt above the part where the cord is to be divided, and ending at the inferior part of the ſcrotum. The ſpermatic cord being laid bare, and freed from cellular attachments, ſeparate the artery and vein from the vas deferens; then

then make a ligature round the two former, and divide the whole cord about half an inch below the ligature; after which diſſect the teſticle out from its connexions.

Secure the bleeding arteries of the ſcrotum alſo by ligature, leaving the ends of each a proper length to hang out of the wound; ſpunge the parts well with warm water, place the edges of the wound as appoſite as poſſible from one end to the other, and retain them ſo with two or three ſutures of the interrupted kind, and ſlips of adheſive plaſter. It will not be amiſs to tie the ſutures with ſlip-knots, to prevent the neceſſity of removal in caſe of future hæmorrhage; dry lint is to be applied to the part, and the moſt ſimple dreſſing. By theſe means the parts are brought to heal by nature's firſt and ſecond proceſs, and as much ſound ſkin as poſſible will be preſerved in aid of thoſe efforts.

We are indebted to Mr. Fearon for much improvement in the operation, both for the ſcirrhous teſticle and breaſt; and whoever reads with attention his treatiſe on Cancers of the Breaſt and Teſtis, will be amply rewarded. One or two circumſtances may be thought worth mentioning with reſpect to the difference in operating, as formerly practiſed, and lately introduced by that gentleman. When the integuments in the line of operation for extirpating the teſtis was diſeaſed, it was thought proper to make two *ſemi-oval* inciſions, ſo as to include the whole of the diſeaſed ſkin; this mode of operating was alſo obſerved when the tumour was large; for fear ſo much looſe ſkin ſhould be productive of abſceſſes, and be inclined to grow hard and diſeaſed: but in caſe of ulceration, or an unſound ſtate of the ſcrotum, he makes a ſecond inciſion in as *direct* a line as the incluſion of that part of the integuments will admit, which anſwers the purpoſe of diſſecting away the diſeaſed part with the teſticle.

Mr.

Mr. Sharp after having removed the teſticle from the lower part of the ſcrotum, ſecured ſuch veſſels of that part by ligature as required it, and for greater ſecurity adviſed two ligatures to be made round the upper part of the cord, if there were room enough between the ring and the tumour; and the diviſion of the cord to be made juſt below the inferior ligature. M. Le Dran recommended a ligature to be paſſed underneath the cord, and to be left there to be tied if neceſſary: having firſt pinched, rubbed, and bruiſed, the cord in ſo great a degree, as to prevent hæmorrhage.

Mr. Warner has obſerved that the diameter of the ſpermatic artery is ſo ſmall in this part of it as to render a previous ligature round the cord unneceſſary; and that the veſſel may juſt as eaſily be ſecured, as an artery after the amputation of a finger; which is never thought neceſſary to be done till the part is removed. He alſo has informed us, that he has ſeveral times truſted to the application of a ſmall piece of the lint to the mouths of the veſſels, after having compreſſed them for ſome minutes between the fingers; notwithſtanding which reſpectable authorities, troubleſome and dangerous hæmorrhages have enſued, and the ſafeſt and moſt commodious method with reſpect to the preſent after-treatment, is firmly to ſecure the artery by ligature.

OTHER DISEASES OF THE SCROTUM.

The Scrotum is generally ſubject to inflammation, tumour, abſceſs, fiſtulous ſinuſſes, calloſities, &c. and is particularly affected with anaſarcous ſwelling, hæmatocele, and cancer.

Anaſarcous Swelling. This may ariſe from a local obſtruction or weakneſs of the lymphatics, but is moſt commonly derived from a general anaſarca, which ſooner or later diffuſes itſelf into the ſcrotum. It is a ſoft, pellucid, pitting ſwelling, and in proceſs of time ſpreads to the groin and penis; which laſt becomes

becomes very much diſtorted, and is at length buried as it were in the tumour. The labia pudendi are alſo ſubject to the ſame complaint, to great extent and enlargement.

Both kinds are eaſily diſtinguiſhable from any tumour of theſe parts, and are to be remedied, by making a few ſlight punctures, in different parts, with the point of a lancet; which are leſs liable to inflame than ſcarifications, or any other means; and if required, may be ſafely repeated.

Hæmatocele, is a ſwelling of the ſcrotum, or of the ſpermatic proceſs, proceeding from extravaſated blood, occaſioned by a rupture, diſeaſe, or injury of the veſſels of thoſe parts; and when the teſtis is found, may be cured by making a longitudinal inciſion, and diſcharging the contents: but if complicated with a ſarcocele or ſcirrhous teſticle, a removal of that part is adviſeable; provided the ſpermatic cord be not too much diſeaſed.

Cancerated Scrotum. Chimney-ſweepers are particularly affected with this diſeaſe. It begins with a kind of wart in the lower part of the ſcrotum, and ſoon produces an ill-conditioned painful ulcer, with jagged edges, which in time eats through the cellular membrane, and ſeizes the teſtis; then runs up the ſpermatic cord, and ſpreads over the groin, the abdominal muſcles, and the viſcera; which parts becoming tumefied and indurated, are painful in great degree: conſtipation enſues, and death happily relieves the patient. It is called the foot-wart, and generally proceeds from not keeping the corrugated part clean, and as free as poſſible from that pungent concrete.

The moſt probable method of cure is, to remove the whole of the diſeaſed part in its early ſtage. Mr. Pott was the firſt medical writer who publicly noticed this diſeaſe, and he has remarked, that it ſeldom, if ever appears before the age of puberty; alſo that when it has ſpread to the teſtis, it extends itſelf rapidly,

pidly, painfully, and deſtructively. For the general treatment in the more advanced ſtage, vide, *Cancerated Ulcer.*

DISORDERS OF THE PENIS.

PHYMOSIS.

DESCRIPTION. The phymoſis is when the prepuce or foreſkin is ſo tightened over the glans, as not to admit of its being drawn back; it is generally attended with inflammation and tumour of the part, pain and ſome difficulty in paſſing the urine, alſo with ulceration or morbid ſecretion between the prepuce and glans. Sometimes the ſkin is greatly thickened and hardened, and partial adheſions take place; the diſcharge is confined, and the concealed parts become much eroded, eſpecially when the complaint is virulent.

CAUSES. Natural conſtriction, want of cleanlineſs, and venereal intercourſe.

CURE. In ſlight caſes, immerſing or ſyringing the part with warm water, waſhing it with chamomile infuſion and milk, and applying the ſaturnine or emollient poultice, have ſufficed. Should the part inflame, the cuſtomary means muſt be purſued, but when it proceeds from a venereal cauſe, and chancres, or foul ulcerations, are concealed beneath the prepuce, it will be proper to uſe a very ſlight ſolution of ſublimate by injection, two or three times a day, and it will be prudent to paſs a probe armed with lint, if practicable, daily, between the glans and prepuce. A mercurial courſe with bark and opium, and the foregoing means, will generally preclude the operation; otherwiſe it will be abſolutely neceſſary to releaſe the part by inciſion. A proper diviſion is ſometimes requiſite, when the glans is naturally too tightly covered.

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When the prepuce is not much thickened and indurated, an inciſion only may anſwer the purpoſe, and the moſt eligible and ready manner of doing it, is that propoſed by Mr. Bell, which obviates the ſeveral inconveniences that attend the common mode of cutting it upwards with the knife and probe-ſciſſars. It is done by paſſing a director along the ſide of the prepuce, between that and the glans, with a ſharp-pointed narrow-bladed biſtoury, adapted thereto, and buried in its groove with the edge forward: as ſoon as the director is felt at the termination of the glans, the point of the biſtoury is to be puſhed through the prepuce, and drawn forward the whole length of it.

When the end, or chief part of the foreſkin is greatly indurated, it will be neceſſary to draw the prepuce forward, and take it off with the knife, or to diſſect off the whole of it, taking care to ſecure the veſſels.

The firſt dreſſings ſhould be ſtrips of lint, properly interpoſed between the edges of the wound, in caſe of a partial inciſion, alſo between the prepuce and glans, to prevent adheſion, a linen compreſs and the ſuſpenſory.

PARAPHYMOSIS.

Description. This diſorder is the reverſe of the former, being a ſtrictured retraction of the prepuce behind the glans. It is ſometimes naturally turned back in this manner, without the leaſt inconvenience. In the morbid ſtricture, the glans and prepuce are both ſwelled and inflamed, and reciprocally affected, till the circulation is ſometimes ſo greatly obſtructed, as to produce a mortification; which is commonly preceded by a pellucid tumour, called the cryſtalline.

Cause. This complaint may ariſe, from whatever excites inflammation and tumour in the glans, penis,

penis, or prepuce, when the latter is drawn behind the glans; but it is moſtly brought on by infectious intercourſe.

Cure. In recent caſes, the prepuce has ſometimes been reduced by immerſing the glans in cold ſaturnine, or common ſpring water, then preſſing forward the prepuce, and compreſſing the glans: a long continued application of the above means has ſucceeded, prior to the cryſtalline ſtate; cold applications repeated for ſometime together, bleeding, and other antiphlogiſtic treatment, are very proper when the parts are in the early ſtate of inflammation: but if the ſtricture increaſe, and the cryſtalline ſtate begin to form, three or four inciſions are commonly made on the ſides of the prepuce, with the ſhoulder of a lancet, ſufficiently deep and long to releaſe it; yet numerous and ſlight punctures have anſwered all the purpoſes equally well. Lint and emollient poultices are proper applications to the inciſions, and the penis ſhould be ſuſpended with its end upwards. If the habit be languid, and gangrene be threatened, the bark, cardiac medicines, fomentations, and warm poultices, will be neceſſary. When the paraphymoſis ariſes from a venereal cauſe, it will require a gentle alterative courſe.

Imperforate Prepuce. This defect is now and then found on new-born infants. It may be ſometimes relieved by a ſmall puncture, and keeping the part free from adheſion by means of a doſſil of lint, or ſome kind of ſoft tent. When the end is twiſted and coaleſced, the prepuce ſhould be drawn forward, and taken off above the adheſion.

Imperforate Glans and Urethra. When the obſtruction is occaſioned by a thin membrane, an opening may be made effectually with the lancet: if thick and fleſhy, without the leaſt appearance of a paſſage, a ſmall triangular trocar muſt be carefully paſſed up the glans, as near as poſſible in the natural courſe, to the part where it appears to be diſtended by the

urine. All which new paſſages muſt be attentively kept open, by doſſils of lint, a ſmall bougie, or whatever will preſerve the aperture, without painful diſtenſion.

Incomplete Perforation. If the paſſage for the urine ſhould open juſt behind the glans or frænum, it may be neceſſary, for certain natural purpoſes, to make an opening with the trocar through the glans, to the part where it ſhould naturally terminate: and the falſe opening may be healed up, with the aſſiſtance of a ſhort flexible catheter. In caſes of this ſort the operation need not be attempted, till the patient has arrived at an age to require it.

Contracted Frænulum. Sometimes it happens that the frænulum is ſo ſhort, as painfully to incurvate the glans at the time of erection; in which caſe, it may be totally divided with the greateſt ſafety, either with the ſciſſars or ſcalpel.

Warts and Excreſcences. Theſe complaints particularly infeſt the penis, but ſeldom without a venereal cauſe: they generally fix on or behind the glans, and the inner duplicature of the prepuce; are of a ſpungy fungous nature, pendulous, or with a broad baſis, ſeparate, or in cluſters. The ſmaller kind may be eaſily removed by gentle catheretics, ſuch as ſavin leaf powdered, alone, or with red or white præcipitate, or with prepared calomel. Others require to be removed by repeated touches with the lunar cauſtic, or with the knife.

Fiſtulæ and Calculi affecting the urethra, are particularly treated of elſewhere.

Cancer and Mortification. A cancer may originate from a mere pimple riſing on the glans or prepuce, which is ſometimes the caſe with chimney-ſweepers afflicted with the ſoot-wart. It may alſo be produced, by an enlargement, ſcirrhoſity, or eroſion of the glans, after the paraphymoſis. For the remedies, ſee *Cancerated Ulcer.*

Mortification may proceed from continued ſtric-

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ture behind the glans. Upon both theſe occaſions, *amputation* will become neceſſary, and may be performed thus:

A tourniquet being applied at the upper part of the penis, make a circular inciſion through the ſound integuments, juſt above the diſeaſed part; then draw back the ſkin, and boldly make a ſecond inciſion through the body of the penis; looſen the tourniquet, and ſecure ſuch veſſels as bleed freely with the needle or tenaculum, and ligature. If, after lint and compreſs have been applied, blood ſhould ſtill ooze from the ſurface, a ſilver canula muſt be introduced into the urethra, and a ſlip of rag wound round the penis. The canula is ſeldom neceſſary, except when hæmorrhage of this kind happens.

STONE IN THE BLADDER.

Stony concretions may be formed in many parts of the body, but are no where ſo frequent as in the kidneys and bladder. Both ſexes of all ages are ſubject to this complaint, men more than women, children and young perſons moſt. It is not the buſineſs of this publication to aim at inveſtigating the remote cauſes of this concrete, or why ſome conſtitutions are more loaded with it than others; the principal deſign throughout being to deſcribe the ſymptoms of every diſeaſe which comes under the particular cognizance of the ſurgeon, the obvious cauſes, and the means of cure.

Symptoms. The following ſigns generally indicate a ſtone in the bladder: Great and frequent inclination to make urine, and that voided with much pain, by drops; ſometimes it comes forcibly, and ſuddenly ſtops, attended and ſucceeded by an uneaſy ſenſation in the glans penis, titilation at the end of the urethra, and teneſmus, or frequent attempts towards a ſtool. The urine is ſometimes very clear much oftener ſlimy, gravelly, and loaded with mucus of a

purulent caſt; it is alſo bloody, particularly after riding, which exerciſe generally gives pain to the bladder, urethra, and penis. The patient is often not able to paſs any urine, except in a lying or kneeling poſture, reſting as it were upon his head, and now and then he has a ſenſe of the ſtone ſhifting its lodgement; all which ſymptoms and ſenſations may be produced by inflammation, tumour, ſtricture, and hardneſs, at, or near the neck of the bladder. Particular ſtreſs is laid by ſome upon the ſenſe of weight being taken off the neck of the bladder, by ſitting on a hard ſeat, or preſſure with the fingers on the perinæum; but the moſt certain method of judging whether there is or is not a ſtone, muſt be by ſearching; and even that has proved deceitful, although under the management of the moſt experienced lithotomiſt. The ſymptoms generally increaſe, according to the ſize, ſurface, number, and weight of the ſtones contained in the bladder, and the irritability of the habit.

Causes. The firſt formation of the ſtone is moſtly in the kidney; a few gravelly particles being there concreted, paſs from thence down the ureter into the bladder, and form the nucleus; which is gradually enlarged by the accretion of ſimilar particles, ſeparated from the urine, and retained in that cavity. Coagulated blood, hairs, bullets, needles, ſmall pieces of bone, bougies, and other extraneous bodies, have alſo been the baſes.

Cure. Divers medicines have been recommended as ſolvents to the ſtone, moſt of which are prepared from an alkali, and taken in a diluted ſtate; beſides which, medicated infuſions and decoctions, mineral waters, terebinthinates, lime water, fixed air, mineral acids, cauſtic alkalies, and neutral ſalts, have been preſcribed; yet no poſitive evidence of diſſolving the ſtone in the bladder can be produced in favour of the moſt boaſted remedy. That each has its palliative quality, cannot perhaps be denied; but every

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fit of the ſtone being produced from irritation or inflammation, bleeding, diluents, opiates, and gentle laxatives are to be preferred for that purpoſe.

Great relief has been attributed to taking no other liquid than an infuſion of dried peach leaves. It is a fact, that a reverend acquaintance of the author was frequently afflicted with violent returns of pain from a real ſtone in the bladder: he dreaded being cut; but after having continued taking this liquid as common drink for ſeveral months together, and uſed no other medicine or liquid than a cuſtomary opiate and gentle laxative mixture, he was able to ride on horſeback upon moſt occaſions: during the time of taking the infuſion, he voided much more whitiſh, gravelly concrete than before. Previous to uſing it, he had been for near three years much confined at home, and was ſeldom able to bear the motion of his chariot.

The phyſalis alkekengi, or what is commonly called winter-cherry, has been confidentially taken of late by perſons much afflicted with gravelly concrete; the doſe from one ſcruple to half a dram twice a day.

But the medicine of greateſt repute at this time for relief of the ſtone and gravel, is that which is recommended by Mr. Benj. Colborne, of Bath, who, after having long undergone the ſevereſt tortures, without relief from every other medicine of repute, firſt experienced its happy effects: which caſe, with a variety of others, may be ſeen in Dr. Falconer's Appendix to Dr. Dobſon's Commentary on Fixed Air. The mode of preparing this *Mephitic Alkaline Water* is more particularly mentioned in that publication, from which the following is an extract:

Put two ounces and a half troy weight, or two ounces and three quarters avoirdupois, of dry ſalt of tartar, into an open earthen veſſel; pour thereon five full quarts, wine meaſure, of the ſofteſt water, and ſtir them well together with a clean piece of wood.

After ſtanding twenty-four hours, decant as much as will fill the middle part of the glaſs machine for impregnating water with fixible air. The alkaline liquor is then to be expoſed to the ſtream of air, as in common. When the alkaline ſolution has remained in this ſituation till the fixible air ceaſes to riſe, a freſh quantity of the fermenting materials ſhould be put into the lower part of the machine, and the ſolution expoſed to a ſecond ſtream of air, and this proceſs ſhould be repeated four times.

When the alkaline liquor ſhall have continued in this ſituation about forty eight hours, it will be fit for uſe, and ſhould be drawn off into clean pint bottles cloſely corked up, and placed with their bottoms upwards in a cool place.

Two thirds of a pint or more may be taken in twenty-four hours, at times when the ſtomach is moſt free from aliment. Eight ounces have been taken three times a day; but when ſo great a quantity appears to be neceſſary, it is recommended to have the alkaline ſolution made of double ſtrength, in which caſe half the quantity will ſuffice. In ſome caſes, twice a day, about noon and in the evening, will be ſufficient, and as a preventative, about an hour and a half before dinner.

Should it prove cold or flatulent to the ſtomach, Dr. Falconer recommends a ſmall portion of ſpirit to be added. He alſo ſays, that about a fourth part of hot milk, eſpecially in cold weather, tends to reconcile it to the ſtomach.

When the patient is grievouſly afflicted with the ſtone, extraction becomes a neceſſary remedy; but before the deſcription of that operation, it will not be improper to notice the previous one, that of aſcertaining the exiſtence of a ſtone in the bladder, commonly called ſearching.

SEARCHING FOR THE STONE.

The operation of ſearching, or ſounding, is performed with a ſolid inſtrument, called a ſound; which for males, is required to have a long curvature, conformable to that of the urethra; whereas for females it may be nearly ſtrait. The paſſing the ſound into the bladder of the male appears to be a trifling operation, but it has ſometimes baffled the moſt expert; and dexterity in doing it, is only to be acquired by frequent practice. The difficulty of uſing the female ſound or catheter, is principally its introduction into the meatus, the paſſage into the bladder being ſhort and direct.

Sounds ſhould be of different ſizes, ſuitable to different patients and ages; the very ſlender ones are not ſo eaſily paſſed as thoſe of larger ſize, by reaſon of the interruptions they are liable to meet with from the inequalities of the paſſage. The mode of introducing the inſtrument into the bladder, is this:

The patient being laid on his back upon a table of convenient height, with his thighs properly elevated and extended, take hold of the penis with the left hand, and with the right paſs the ſound dipped in oil, into the urethra, holding the convex part of it towards the belly of the patient; thruſt it gently down the paſſage, at the ſame time drawing forward the penis upon the inſtrumeut, till it reaches the bulb of the urethra; then turn the ſound dexterouſly, ſo as to carry the concave part next the abdomen; and without much force puſh it forward into the bladder. Sometimes its paſſage is obſtructed by the neck of the bladder; to get over which, inſtead of uſing force, the extremity of the ſound muſt be tilted up. If it ſhould not be forwarded from that direction, withdraw it a little, and paſs the fore finger of the left hand properly oiled into the rectum, by which

the end of the inſtrument may be lifted up, and eaſily ſlipped into the bladder.

Thoſe practitioners who are not ſufficiently ſkilled in this operation to make the turn in the proper place, may paſs the inſtrument with the concave part towards the belly.

The ſound being entered into the bladder, paſs it regularly from one ſide of it to the other, in ſearch of the ſtone: if it meet with a hard body, ſtop, and be convinced again and again, till it gives poſitive evidence both to the touch and ear. A ſtone is ſometimes imperceptible from lodging under the orifice of the bladder, or in a fold of it; if ſo, paſs a finger up the rectum, and preſs it againſt the neck of the bladder, as it were, towards its fundus, and alter the poſition of the body.

If all the ſymptoms concur without ulceration or induration of the proſtate gland, or neck of the bladder, the ſearch ought not to be entirely given up after the firſt and even the ſecond time of trial. Too haſty a declaration in a matter of this kind has been known to injure the reputation of a practitioner. Some authors have laid down rules for judging of the ſize, ſhape, and number of ſtones, by the feel with the ſtaff; but the buſineſs is of too difficult a kind to admit of certainty; therefore they deſerve very little attention.

When a ſtone is poſitively diſcovered, it will be neceſſary to enquire into the ſtate of the patient with reſpect to the probability of ſucceſs attending the operation for extracting it. The principal objection to its immediate performance is, a fit of the ſtone in the kidney or bladder, which ought to be clearly removed before the attempt is made. The catheter was formerly uſed for ſearching, till Mr. Sharp recommended the ſteel ſound, which, from its ſolidity, renders ſenſation much more diſtinct and clear.

The patient, when plethoric, ſhould loſe a few ounces

ounces of blood, and be kept upon a low diet about a week before the operation of lithotomy, and take a gentle purge or two with oil and manna, at three or four days diſtance. A glyſter ought alſo to be adminiſtered early on the morning of the operation. A purge a day or two before, with a glyſter on the morning, together with a proper regimen for a few days, is ſufficient preparation in moſt other caſes.

LITHOTOMY.

Cutting for the Stone has, at different periods, been performed four different ways. The moſt antient method is deſcribed by Celſus, and was called *Cutting on the Gripe*; it was afterwards more commonly known by the appellation of *Apparatus Minor*, to diſtinguiſh it from that invented by *Johannes de Romanis*, and publiſhed by his pupil *Marianus* in 1524, which was called *Apparatus Major*, principally from the number of inſtruments made uſe of therein; the *Apparatus Altus*, firſt made known by *Pierre Franco* in 1561; and the *Lateral Operation* invented by *Frere Jaques*, in 1697.

The Leſſer Apparatus, or cutting on the gripe, was done by introducing the fore or middle finger of the left hand, dipped in oil, into the rectum, in ſearch of the ſtone, at the ſame time preſſing with the right hand juſt above the pubes, ſo as to bring the ſtone to the neck of the bladder; then forcing and retaining it on the left ſide of the perinæum, above the anus, an inciſion was then made to the ſtone, which was turned out with the fingers, or a ſcoop: this operation was difficult to perform when the ſtone was beyond the reach of the finger, for want of a proper direction; and the vaſa deferentia, and veſiculæ ſeminales, muſt have been often injured.

The Greater Apparatus. In this mode of cutting, a grooved ſtaff was paſſed into the bladder, and the convex

convex part of it was made to project againſt the left ſide of the ſeam in perinæo, and was kept in that poſition by one aſſiſtant, whilſt another held up the ſcrotum. An inciſion was made from near the bottom of the ſcrotum, and continued to within about three quarters of an inch of the anus, in the courſe of the ſtaff; then turning the back of the knife towards the rectum, the point was ſlipped forwards in the groove, a great part of the bulb was divided, and the inciſion was continued to the proſtate gland: the beak to the gorget was then placed into the groove of the ſtaff, and puſhed through the gland, the reſt of the urethra, and the neck of the bladder; theſe parts were then dilated by the fore-finger, the forceps were introduced, and the ſtone was extracted.

This mode of operating was reaſonably objected to, on account of making a longer wound than neceſſary in the interior parts; the violent diſtention and laceration of the parts, and the difficulty of extracting large ſtones. In conſequence of which objections, Pierre Franco is ſaid to have introduced the High Operation.

The High Operation. This operation, after having been diſcontinued full 150 years, was revived in London in 1719, and performed as follows:

The patient being properly diſpoſed upon a table, with his head lower than his breech, ſo that the abdominal muſcles might be in ſome degree relaxed, a ſilver catheter, adapted at one end to a flexible leathern tube, was introduced into the bladder; the wind-pipe of an Indian cock was uſed by Mr. Douglaſs for this purpoſe; and the ureter of an ox by Mr. Cheſelden: either of which was fitted to a ſyringe; by means of which apparatus, from eight to ten ounces of warm water, or barley water, were gently thrown into the bladder. As ſoon as the bladder was nearly filled, the catheter was withdrawn, and the penis was immediately tied round,

to

to prevent the return of the fluid. Heiſter ſays, that drinking ſmall liquors would anſwer the purpoſe of filling the bladder equally well; if ſo, it deſerved the preference, by acting upon the bladder more regularly than from injection.

The bladder being properly diſtended, an inciſion was then made with a round-edged ſcalpel, from three to four inches long, between the recti and pyramidales muſcles, immediately above the oſſa pubis, gradually diſſecting down to the bladder, which part was eaſily to be felt juſt below the margin of the pubes at their ſymphyſis; then puſhing back the peritonæum, together with the inteſtines, the inciſion was continued into the moſt prominent part of the bladder. The fore-finger was then introduced, the wound was enlarged by a probe-pointed biſtoury to the length of two or three inches, the ligature on the penis was removed, and the forceps were directed to the ſtone by the fingers of the left hand.

This method of operating was given up from the following objections: the peritonæum was ſometimes unavoidably wounded, and the inteſtines protruded; the urine inſinuated itſelf into the cellular membrane, and into the cavity of the abdomen, when the peritonæum was injured; both which accidents were the occaſion of bad ſores, excoriations, inflammation, ſuppuration, and ſinuſſes. Beſides, it was remarked, that few above the age of thirty, ſurvived the conſequences; the diſtenſion of the bladder was alſo thought injurious. Theſe, and other attending ills, introduced the lateral operation, which has proved ſucceſsful in perſons of all ages.

The Lateral Operation. This was improved by Rau, Cheſelden, and others. The inventor, Frere Jacques, was accuſed of being an ignorant neceſſitous monk; but in ſpite of invective, and the virulent reflections which ingenious and enterprizing men

were

were ſubject to, at that time of day, it is acknowledged that he practiſed latterly with great ſucceſs. The following is the method now purſued:

The parts being clean ſhaved, the patient is laid on his back upon a table, about three feet and a half, or four feet in length, two and a half in breadth, and three feet in height, and is properly ſecured by fixing the nooſe of a broad tape, about a yard and a half long, around each wriſt, and with it faſtening the hand, ankle, and foot, of the ſame ſide, together; alſo by further confining him with a double ligature paſſed under his hams, and round the back of his neck; his head is ſupported upon a pillow, and one or two more are placed beneath his hips, in order to raiſe the pelvis higher rather than the belly: his buttocks are brought juſt over the end of the table, an aſſiſtant on each ſide keeping his legs and thighs ſecurely aſunder, and a third perſon holding the body ſteady.

The operator then paſſes the grooved ſtaff, and takes the opportunity of convincing himſelf and the aſſiſtants, or by-ſtanders, that there is a ſtone; he then inclines the handle of the ſtaff over the right groin, ſo as to fix the convex part of it againſt the left ſide of the perinæum, in which poſition it is held firmly and ſteadily, by the right hand of a ſkilful aſſiſtant, who may, at the ſame time, with his left hand, ſupport the ſcrotum.

The ſurgeon being ſeated in a good light, makes his firſt inciſion through the ſkin and fat, beginning a little to the left of the ſeam, and continuing obliquely along the perinæum, rather below the anus, ſo as to leave off between that and the tuberoſity of the iſchium. When the teguments are divided in ſufficient length, on which future convenience depends, the fore and middle finger of the left hand are inſerted into the wound, preſſing down the rectum with one, and opening the wound near the ſeam with the other.

A ſecond

A ſecond inciſion is then made in the direction and line with the firſt, through the muſcles, ſo as to admit of feeling the proſtate gland, and the groove of the ſtaff; at which time it may not be amiſs to rectify the poſition of that inſtrument. Then turning the edge of the knife upwards, its point is paſſed on the fore-finger of the left hand down to the proſtate gland; ſtill carefully depreſſing the rectum with the back of it, in order to avoid wounding the gut. The edge of the knife being ſtill upwards, is then puſhed laterally as poſſible along the groove of the ſtaff, inclining the handle rather downwards, till the whole, or moſt part of the gland is divided; which diviſion will be rendered more perfect by drawing the point of the knife back along the groove in the ſame line. Others direct the point of the knife to be carried on the finger, and inſerted into the urethra, juſt beyond the bulb; alſo that the diviſion be continued laterally up to the proſtate gland only, then to make the further diviſion with the cutting gorget; inſtead of which, when the gland is divided with the knife, the blunt gorget may be uſed.

The knife being laid aſide, and the beak of the gorget being carefully guided by the finger nail into the groove of the ſtaff, the operator ſtanding up, takes the handle of that inſtrument into his left hand, and holding it firm, and with firm reſiſtance, nearly at right angles with the belly of the patient, puſhes the gorget along the groove into the bladder, which, if rightly paſſed, is followed by an efflux of urine.

The ſtaff is now withdrawn, and the forceps are gently introduced into the bladder; but before this is done, it is a maxim with thoſe who uſe the blunt gorget, to paſs the fore-finger of the left hand into the bladder, in order to dilate the paſſage through the neck of the bladder, and, if poſſible, diſcover the ſituation of the ſtone. The finger withdrawn, a pair

of

of proper ſized forceps are gently introduced along the courſe of the gorget with the blades ſhut; the gorget is then taken away, if of the cutting kind, carefully, and in the direction it was entered.

As ſoon as this is done, the forceps are gradually opened, moving the upper blade on the inferior one, as if it were on the axis, from one ſide to the other, in ſearch of the ſtone; which, if found to lodge behind the neck of the bladder, that part of it is to be elevated by a finger paſſed into the rectum.

The ſtone being fixed in the forceps, they are held firm by both hands, the thumb of the left hand being placed near the joint, by which means the ſtone is likely to be preſerved whole. The extraction ſucceeds beſt by gradually increaſing the neceſſary force, and by bearing downwards in the direction of the wound.

If a large veſſel be divided, it will be proper to ſecure it by needle or tenaculum, before the ſtone is extracted; but ſuch an accident ſeldom occurs to interrupt the progreſs of the operation. The difficulty of taking up the veſſels is moſtly owing to the external inciſion being too confined. When the veſſels of the proſtate gland bleed moderately, dry lint, or lint dipped in ſtyptic, may be applied, and held ſome hours to the part; otherwiſe, a pledget of lint, and another of digeſtive, will ſuffice.

When the ſtone breaks into pieces, they ſhould be taken away with the forceps; if they are very ſmall, the ſcoop is to be preferred for that purpoſe. There are few inſtances of more ſtones than one, when that which is extracted is rough; on the contrary, if with a poliſhed ſurface, more than one may be expected; on which account, the operator ſhould be ſtrict in his examination with the finger, or ſome convenient inſtrument, for others.

Sould the patient be ſick or faint after the operation,

tion, lighten the bed-cloaths, and admit freſh air; if he complains of pain low down the abdomen, within two or three hours after, and other ſymptoms of inflammation occur, have recourſe to bleeding, emollient glyſters, ſaturnine applications, or diſcutient fomentations, which latter are ſometimes put into a bladder, and applied warm to the hypogaſtric region.

When the urine paſſes freely through the wound, it is a good indication that the deeper parts are in a favourable ſtate; ſometimes the orifice at the neck of the bladder is turgid and contracted, ſo much ſo as to prevent the exit of the urine without the aid of the catheter. The patient ſhould be kept upon low diet for the firſt eight days, and a ſtool ſhould be procured by glyſter on the third day, to be repeated at diſcretion. Slips of plaſter ſhould be applied to the edges of the wound as ſoon as the urine paſſes rightly, with compreſs and T bandage. As ſoon as the ſymptoms will permit, it will be proper for the patient to be raiſed in his bed, to prevent the lodgment of urine about the adjacent parts. This wound is treated after the general method, except that after the firſt dreſſing or two, it will be neceſſary to be guarded againſt preſſing the pledgets in too deeply, or applying them too ſuperficially, both extremes being likely to produce a troubleſome ſore, if not a fiſtula.

Excoriation of the buttocks, &c. may be prevented by placing a dry doubled ſheet, of proper thickneſs, under them, and occaſionally repeating it. Linen dipped in oxycrate and brandy, or anointing the parts with Goulard's cerate, or ſaturnine ointment, are generally uſeful on ſuch occaſions.

The following circumſtances ought to be particularly attended to by the operator.

That the inciſion through the integuments be made large enough, and low down towards the

buttock; alſo that the muſcles be freely divided, to obviate the pain and neceſſity of cutting upon the ſtone, and to give a free exit to the urine.

That the inciſion be not made too near the ſcrotum, as that is likely to be followed by an inflation of the cellular membrane, and ſometimes with more diſagreeable circumſtances: ſuch as inflammation and tumour in the left teſtis, and abſceſs in the body of it.

That practical authors are divided in their opinions with reſpect to retaining a quantity, or diſcharging the whole of the urine, previous to the operation; and as the authorities in either caſe are of equal weight, it may reaſonably be concluded, that it is a matter of no great moment.

That ſome principal operators ſtill perform the whole of the inciſion with the knife only, and with great ſucceſs; that others prefer the cutting gorget to the knife for the latter inciſion, perhaps with equal advantage.

That the opening in the urethra be made near to the proſtate gland; and that the diviſion of that body be made as laterally as the poſition of the ſtaff will admit, in order to avoid injuring the rectum, the vas deferens or the veſiculæ ſeminales.

That when the ſtone is too big for the opening, it will be far preferable to enlarge the inciſion through the integuments, muſcles, or proſtate gland, as laterally as poſſible; whilſt the ſtone is brought forward and held firm by the forceps, than to riſk the laceration of the parts. Or when ſuch means are not practicable, to endeavour to cruſh the ſtone, and remove each particle with the forceps, finger, and ſcoop.

That inſtances have happened contrary to the received opinion, where more than one rough ſtone has been taken from the bladder at one operation, and not more than one ſmooth one was to be found. Search therefore ſhould be indiſcriminately made imme-

immediately after the extraction of every ſtone; which may be done with the finger, famale catheter, or a convenient ſolid inſtrument.

That in the lateral operation the moſt remarkable parts wounded are, the muſculus tranſverſalis, penis, the levator ani, and the proſtate gland: in the old lateral way, or apparatus major, the urethra was wounded two inches on this ſide the gland, and the gorget and forceps were forcibly puſhed through the reſt of that paſſage.

EXTRACTION OF THE STONE IN WOMEN.

Women are probably as much ſubject to ſtony concretions as men; but the urethra is ſo ſhort and dilatable, that ſmall ſtones will eaſily paſs from the bladder; and few there are that grow to ſuch a ſize as to require manual aſſiſtance.

Females have been relieved from the ſtone in the bladder, by ſimple dilatation of the urethra, with gentian root, ſpunge tent, and other ſuch means. Extraction has been performed by ſimply paſſing the gorgeret into the bladder, upon the director, diſtending the neck with the finger, and introducing the forceps. Inſtances are recorded wherein the bladder was opened through the upper part of the vagina, and the forceps were paſſed for the ſtone through the opening: but ſuch means have been long laid aſide, and the following mode of operating is juſtly preferred, both for eaſe and ſafety.

Let the patient be placed and ſecured, as directed in the lateral operation; paſs a grooved director, or ſtaff made for the purpoſe, through the urethra into the bladder; hold it firmly in the left hand, with the groove placed ſo that the cut may be made on the left ſide, obliquely ſlanting; then with the right hand, fix the beak of the cutting gorget into the groove, and puſh the end gently along into the bladder: ſearch for the ſtone with the finger, and extract with

the forceps. Should the ſtone be large, and the neck of the bladder be brought forward during extraction, it muſt be releaſed, by cutting through that part upon the ſtone.

The patient ſhould be treated, both before and after the operation, in the manner preſcribed for the male ſubject. The dreſſings repeatedly to be applied with cloths dipped in vegeto mineral water: in languid habits, warm fomentations are preferable.

STONE IN THE URETHRA.

Small ſtones are often met with in the urethra, and are attended with extreme pain, inflammatory ſymptoms, and a partial or total ſuppreſſion of urine. If the obſtruction is of long ſtanding, and the ſymptoms are alarming, every means ſhould be applied for relief as ſoon as poſſible. The patient, if plethoric, ſhould be bled largely, and be repeatedly immerſed in the warm bath; oil or mucilaginous injections muſt be thrown up the paſſage, and thebaic tincture, with eſſence or wine of antimony, ſhould be fully adminiſtered. By thus relaxing the habit, ſtones of ſome ſize have been gently preſſed out of the urethra.

When a ſtone is abſolutely fixed in ſome part of the paſſage, it muſt be cut upon and extracted. When it is felt at the neck of the bladder, the two firſt fingers of the left hand are to be introduced into the rectum, in order to preſs the ſtone forward into the urethra, and reſiſt the inciſion; which is to be made in proportion through the teguments and urethra. The ſtone may then be puſhed out by the fingers in the rectum, or removed by a ſmall pair of forceps, probe, ſcoop, or hook. When the ſtone is lodged further into the urethra, it may eaſily be cut upon, by pulling the ſkin over the glans as far as poſſible making a longitudinal inciſion down to the ſtone in full length, turning it out, and ſlipping the

the ſkin back into its former ſituation; by which means the urine is ſaid to be prevented paſſing through the wound, particularly if the inciſion be made laterally into the urethra, and the wound is likely to heal by the firſt intention; ſome object to ſlipping the ſkin forward, as tending to produce the very ill it is intended to prevent.

When the ſtone is ſituated near the glans, or the opening of the paſſage, it may ſometimes be preſſed or picked out.

In conſequence of ſome part of the urethra being perforated, ſtones have been known to lodge in a kind of ſacculus, formed in the cellular membrane, and to increaſe conſiderably: theſe are to be cut upon the whole length of the tumour, and may be eaſily extracted. Wounds of this kind are known to have healed much ſooner, by bringing the edges together with the twiſted ſuture, paſſing a bougie up the urethra beyond the inciſed part, and retaining it in the paſſage for ſome time together every day. Two ſingular inſtances of ſtones formed in the urethra, are taken notice of by Mr. Warner, and Mr. Gooch, in their uſeful publications of Caſes in Surgery.

NEPHROTOMY.

It ſometimes happens that one or more ſtones form in the pelvis of the kidney, and acquire too great a ſize to paſs into the ureter; in ſuch a caſe the pain is ſevere, and a dreadful train of ſymptoms generally enſue. Inflammation and ſuppuration in the kidney are moſtly the conſequences, and the abſceſſes burſt externally; from which a quantity of ſabulous and ſtony particles are diſcharged. From accidents of this nature, the old ſurgeons ſuggeſted the operation of cutting through the tegu̇ments and muſcles, and directed an opening into the kidney itſelf, ſufficient to diſlodge the ſtone.

But the difficulty of aſcertaining a matter of this kind, as well as the evident danger of ſuch an operation, forbid ſuch enterpriſes.

It is not improbable that moſt of the boaſted performances of this kind, have been nothing more than the common opening of an abſceſs, which formed and pointed in and about the kidney; and from which calculous concretions were diſcharged or extracted.

OBSTRUCTIONS IN THE URETHRA.

Description. This complaint was not long ſince attributed to a caruncle or fleſhy excreſcence growing in the paſſage; but upon repeated diſſections of the part, ſcarce an inſtance of the kind has been found to exiſt, except a ſmall tubercle at the extremity of the urethra. Many ſurgeons have conſidered it as an enlargement of that kind of tubercle, which is natural, at the extremities of the vaſa deferentia, and is called verumontanum, or caput gallinaginis: but this does not explain itſelf in every caſe, the impediment being not confined to one place. It has been clearly demonſtrated from various diſſections, that the moſt general cauſes are, thickneſs and contraction, which affections have happened in different parts of the paſſage.

In this diſorder the urine generally comes away in a ſmall ſtream, which gradually leſſens, and is ſometimes forked in its exit; particularly, if the complaint is ſituated near the extremity of the urethra; the patient is often endeavouring to make urine, and moſtly with great pain and difficulty: the diſeaſe increaſes by ſlow degrees, occaſions great irritation, and ſome inflammation, and if not timely relieved, will proceed to a total ſuppreſſion.

Causes. Chancres, ulceration, and cicatrix; thickneſs, and enlargement of the corpus ſpongioſum of the urethra, and ſtricture; the untimely and improper

proper uſe of injections; calloſity and ſcirrhoſity of the proſtate gland, or the neck of the bladder, and obſtinate gleets; all which moſt frequently proceed from gonorrhea, or venereal taint. Inflammation and abſceſs may alſo be the cauſes of ſuch obſtructions.

CURE. When thickneſs, ſcirrhoſity, ſtricture, or ulceration, are the cauſes, whether originating from venereal inflammation or lues, a gentle mercurial courſe will be neceſſary. The following method has been ſucceſsful in ſeveral inſtances:

Hemlock leaves properly dried and powdered, or extract of the ſame, from four to ten grains; calomel finely lævigated, from one to two grains; make theſe into ſmall pills for one doſe to be taken every night at bed time.

The decoction of Sarſaparilla, of the woods, or of Bark, may be occaſionally given agreeable to the nature of the habit. A gentle purge ſhould be now and then adminiſtered, and the courſe muſt be ſuſpended if the mouth be much affected.

The proper applications to heal with, or remove the obſtruction are, the medicated candles, or bougies. The diſtenſion and compreſſion which they are intended to keep up at the part affected, may be increaſed by gradually altering the ſize. This inſtrument when extremely ſmall, may be made to paſs through the moſt contracted part, by frequent gentle applications, ſuch as turning it round or ſlowly paſſing it forward, and gently preſſing the end of it againſt the obſtruction. It will ſometimes require a little force to overcome the impediment, which ought to be exerted or not, according to the degree of irritability in the paſſage; and in ſuch inſtances, the bougie muſt be of a middling ſize. When the part is a little inured to the application, it may be ſuffered to remain ſome time in contact with the diſeaſed part, the benefit increaſing in proportion

to the length of time it can be retained ſo, without exciting much irritation.

Bougies are made of different ſizes, from that of the knitting needle up to the large catheter: they were formerly made with wax, and a wick in the middle, after the manner of candles, but the beſt are compoſed of pieces of fine rag dipped in a mixture of common plaſter made with the pureſt oil, and a portion of fine wax ſufficient to give it a proper conſiſtence, then rolled up in due form and ſize.

The elective quality of ulcerating or healing, which was ridiculouſly attribute to Daran's bougies, can never be admitted; yet experience has proved, that Lallier's, of Rathbone-place, are much eaſier to be borne than others, and in ſome inſtances have been more efficacious; particularly in an obſtinate caſe of ſtricture in three different parts of the urethra, which twice within the ſpace of three months had been attended with inflammation, extreme pain, and total ſuppreſſion of urine. The patient was each time with difficulty relieved, by repeated bleeding, warm bathing, enemas and opiates, alſo mucilaginous and diluent drinks. The uſe of bougies of the moſt bland kind, had been attempted ſeveral times to no good purpoſe. After the ſecond inflammation had abated, Lallier's bougies were gradually introduced, and in about three weeks were worn with the greateſt eaſe, and in little more than three months every obſtruction was removed. A very ſmall catgut has been ſometimes introduced preparatory to the bougie.

Sometimes the bougie occaſions too much irritation, ſo as to excite a copious ſecretion of mucus; when this happens, its uſe ſhould be diſcontinued, at leaſt for a time. There are inſtances and times when even the introduction gives intolerable pain, whence it muſt appear that the uſe of this profitable inſtrument requires great care and management. Bougies charged

with

with eſcharotics were formerly uſed; but as they were uſed without either guard or guide, and were not ſtrictly confined to the diſeaſed part, they fell into diſrepute. Great objections therefore were made to the uſe of the cauſtic, yet it is well known, under proper management, to have been efficacious in ſome of the moſt dangerous caſes. The late Mr. John Hunter, a ſurgeon of the greateſt eminence, to whom the world is indebted for many diſcoveries, contrived an inſtrument for the ſafe conveyance of the lunar cauſtic to the part affected only, and in his valuable Treatiſe on the Venereal Diſeaſe, has given the following directions for this bold practice.

When a bougie can readily paſs, there is no cauſe for uſing any other method. The cauſtic may prove neceſſary when the ſtricture is too tight to allow of the ſmalleſt bougie to paſs, or where the paſſage is quite obſtructed; particularly when the urine has burſt through the urethra in conſequence of an obliterated paſſage.

A piece of lunar cauſtic ſcraped to a proportioned ſhape and ſize, is fixed in a ſmall port-crayon faſtened to a wire, this is introduced through a ſtrait or flexible canula previouſly paſſed up the urethra, as far as the ſtricture. The application of the cauſtic need not to be longer than a minute, and it may be repeated every, or every other day, allowing time for the ſlough to come off; or for an abatement of the inflammation, irritation and ſpaſm brought on by the uſe of the cauſtic, which often occaſions a total ſuppreſſion of urine for a time; againſt which, all the means commonly uſed on ſuch occaſions to procure relief, muſt be employed. If the patient can make water immediately after the uſe of the cauſtic, it will be proper to waſh away any particle of cauſtic that may have diſſolved in the paſſage; water injected into the urethra will not do quite ſo well.

Inflammation and abſceſs, are to be treated after the method generally preſcribed under thoſe articles, except, that in theſe parts, it is the duty of the ſurgeon to diſcharge the matter as ſoon as it appears to be formed.

SUPPRESSION OF URINE.

This diſorder may ariſe from various cauſes, and is moſtly alarming and dangerous. From compreſſion at the neck of the bladder, through pregnancy, or adjoining tumour; want of energy in the accelatores muſcles, and weakneſs of the bladder from over diſtenſion; under which circumſtances, the catheter is generally uſed with ſucceſs; irritation or ſpaſm, from ſtones in the bladder, or urinary paſſages, ulceration, mobid thickneſs or ſtricture thereof; and what is moſt terrible of all, inflammatory ſtricture, which is commonly attended with extreme pain. Should repeated bleeding, opiates in large doſes, injections, the warm bath, and ſuch like treatment prove uſeleſs, and every attempt to paſs the catheter be of no effect, the only reſource is, provided the bladder be painfully diſtended, to make an opening into the bladder: the diſtenſion may be poſitively aſcertained by a round tumour to be felt juſt above the oſſa pubis. Some ſuppreſſions originate in the kidnies and ureters, on which occaſions the bladder is moſtly empty, and its neck is much conſtricted.

Surgeons are divided in their opinions with reſpect to the moſt proper part for perforating the bladder; ſome are for doing it juſt above the ſymphyſis pubis, others prefer paſſing the trocar juſt above, and a little to the left of the proſtate gland; the perforation is alſo adviſed to be made through the rectum, or through the vagina.

The higher operation is recommended by Mr. Sharp,

Sharp, in preference to that in perinæo, becauſe of the difficulty which he ſays there is in guiding the inſtrument into the bladder, and the danger of keeping the canula the neceſſary time, in a part ſo much inflamed and thickened: but experience proves, that the inconveniences are not ſo great in that reſpect as they are repreſented, and that the urine paſſes off more freely by the perinæum, than above the pubis: alſo, that the canula may be lodged, occaſionally taken out to be cleaned, and returned with no great difficulty, at the inferior orifice.

The different operations are thus performed.

That above the oſſa pubis, by making an inciſion two inches long, through the teguments and muſcles, and perforating the bladder with the trocar, about an inch, or rather more, above the ſymphyſis. The perforation with the trocar has been made with equal ſafety in that part, without previous inciſion. The canula is ordered to be not more than two inches in length; if longer, it is likely to injure the bladder when collapſed; if ſhorter, it will be difficult to keep it in the bladder: once in three days it will require to be cleaned; to do which, a ſtout probe ſhould be paſſed through its hollow part, upon which the canula may be readily withdrawn and replaced. The canula is alſo to be faſtened round the belly with tapes, paſſed through the rings at its verge.

To puncture the perinæum, which mode is preferred to the former, an inciſion is firſt made through the integuments, at a moderate diſtance from, and parallel with the ſeam, juſt beyond the bulb of the urethra, and the trocar is to be inſerted rather to the left of, and a little above, the proſtate gland; taking care to avoid wounding the urethra, and the parts which lie behind the neck of the bladder. Mr. Bell has contrived a certain method of diſcovering the immediate entry of the trocar into

the bladder, by forming a deep groove in that inſtrument, from its point up to the handle, through which the urine appears at the moment the inſtrument has entered the cavity. The canula is here alſo to be left ſecured and removed, as before.

Perforation may be eaſily performed through the rectum, but can hardly be done without either injury to the veſiculæ ſeminales, vaſa deferentia, or ureters, all which lie at the back part of the neck of the bladder.

When women are troubled with ſuppreſſion of urine, and cannot be relieved by any other means, perforation is to be made through the vagina, by introducing the left fore-finger into that part, and directing the trocar upon it, to a prominent part of the bladder, neareſt to the mouth of the vagina. As the canula is to be left in the opening, it ſhould be faſtened by tapes to the T bandage, made to paſs over both the labia.

It will not be improper in this place to notice the ready uſe of the catheter with women. There is a particular delicacy required, on certain occaſions, in paſſing this inſtrument, which every male practitioner ſhould be able to comply with, and carries with it great recommendation: viz. the introduction of it into the meatus urinarius, without expoſing the parts. This may be acquired with a little practice, by paſſing the end of the catheter along the finger of the left hand, to the point immediately below the clitoris; the opening of the urethra lying about a fingers breadth below that part near the verge of the vaginæ.

PRAC-

PRACTICAL SURGERY.

PART THE FOURTH.

INCONTINENCE OF URINE.

THE neck of the bladder may be ſo injured or weakened, as to loſe its retentive faculty. It is ſometimes a ſymptom of ſtone ariſing from irritation and ſtimulus, which is to be relieved by mucilaginous liquors, emulſions, and opiates: it may proceed alſo from a paralyſis in the ſphincter veſicæ, for which bark and ſteel, and cold applications, have been uſed with ſucceſs: repeated applications of bliſters over the os ſacrum have alſo proved effectual. In ſuch caſes, or when it proceeds from laceration of the parts in the extraction of the ſtone, the jugum, or yoke, invented by Nuck, will have good effect. A ſteel truſs, formed for compreſſing the urethra in perinæo, is alſo recommended by Nuck and others. Where preſſure would be injurious, a kind of flat urinal, made hollowing to the thigh, has been worn with advantage.

Women are alſo ſubject to this inconvenience from like cauſes, but with them it moſt frequently originates from difficult labours. Peſſaries made of ſpunge, or ſome light wood, and paſſed up the vagina, have anſwered well, where preſſure was allowable.

IMPER-

IMPERFORATE ANUS.

Infants are ſometimes without the natural opening at the anus; in which caſe, if one be not ſoon formed, the meconium will excite gripes, vomitings, ſwelled belly, convulſions, and death. When the part where the opening ſhould be has the mark of cicatrix, or is covered with a thin membrane, protruded by the contents of the gut, an inciſion ſhould be made about an inch in length with an impoſthume lancet, or ſcalpel. If the part be cloſed up by a thick fleſhy ſubſtance, or there be no mark for direction, the operation is both difficult and hazardous, eſpecially if the rectum ſhould terminate high up, towards the ſacrum, near the bladder, or the vagina.

In an obſtruction of this kind, an inciſion ſhould be made ſufficiently large, through the integuments; if the fæces do not follow, the finger is to be paſſed into the wound in ſearch of the rectum, and a trocar, or narrow-bladed ſcalpel, is to be carefully directed up to the termination of the gut, upon the point of the finger, carrying the edge of the knife towards the os ſacrum, for fear of wounding the bladder in males, and the vagina in females.

Doſſils of lint ſhould be repeatedly introduced, of proportionate thickneſs and ſufficient length. The perforation may be eaſily kept open in ſlight caſes, but if it be made high up, it will require the utmoſt care and attention, for ſeveral months, to preſerve the aperture. A large ſilver or leaden pipe, ſponge tent, gentian root, and ſuch like applications, have been uſed for this purpoſe; but the diſtenſion and irritation occaſioned by them give great pain; proper ſized doſſils of lint therefore are the beſt means for perfecting this work, and may be retained by ſuitable compreſs and bandage.

PROLAPSUS ANI.

DESCRIPTION. The rectum is ſometimes partly inverted, both in adults and children; which complaint is termed a prolapſed anus. This part may be protruded to a great length, is often very painful, and appears with a dark fleſhy aſpect. When the diſorder is of long ſtanding, and the patient is of a relaxed habit, the difficulty lies in keeping it up after reduction, and preventing its return upon going to ſtool. The prolapſed part may ſometimes remain a long time expoſed, without incurring bad conſequences, but from neglect of reduction, it is liable to inflame, ſwell, and mortify, and has been known to ſuffer an entire ſeparation at the verge of the anus. Inſtances are recorded of the whole becoming cancerous.

CAUSES. Weakneſs, and relaxation of the ſphincter muſcle, dyſentery, piles, teneſmus, difficult labours, coſtiveneſs, or whatever may ſtimulate the rectum to violent action.

CURE. The prolapſed part ought always to be reduced as ſoon as poſſible; and it may be eaſily done, when there is neither tumour nor inflammation attending it. The patient being placed on a bed, in a prone poſture, with his buttocks raiſed higher than his body, the ſurgeon ſhould force up the protruded end with one hand, whilſt he preſſes in that part which is next the anus with the fingers of the other. If it be ſwelled and inflamed, apply cloths repeatedly dipped in camomile infuſion and milk, or weak ſaturnine water, emollient cataplaſms, &c. bleed alſo, and order cooling medi cines and low diet; and poſtpone every attempt to reduce, till the ſymptoms are removed.

When relaxation is the cauſe, the beſt means for preventing relapſe, are thick compreſſes and the T bandage; alſo, aſtringent injections made with a decoction

decoction of oak, or pomegranate bark: the truſs, invented by the late Mr. Gooch, of Norfolk, or a ſmall lump of plaſter properly formed and wrapped up in a ſoft rag, may be applied externally, and ſecured with compreſs and bandage.

The bark and chalybeates ſhould be adminiſtered internally, together with cold bathing. When the diſorder is produced by dyſentery and teneſmus, the ſtarch glyſter, with thebaic tincture, or tincture of opium, are proper; if by piles, or coſtiveneſs, the remedies calculated to relieve thoſe complaints.

TUBERCLES AND EXCRESCENCES IN AND ABOUT THE ANUS.

Theſe tumours frequently infeſt the lower part of the rectum, and are denominated according to their figure and ſize; among which are ranked, the condyloma, ficus, criſta, fungus, &c. They generally form on the cuticle, are of a pale white, or reddiſh colour, and are ſometimes broad and flat; at other times grow out like warts, &c. in proceſs of time they get connected with the cutis, and even the ſubjacent muſcles.

They are moſt commonly cauſed by a diſcharge of vitiated ichor, or purulent matter, and are particularly obſervable about the private parts of both men and women that are affected with gonorrhea, or lues.

If ſmall, and not much compreſſed at their baſis, a ſlight inſperſion of ſavin leaf powdered, alone, or mixed with a ſmall portion of calomel, or gentle touches with lunar cauſtic, will often prove effectual; but the beſt and readieſt method of cure is, at once to remove them by exciſion, and to touch the part from which they were extirpated with lunar cauſtic. A gentle alterative mercurial courſe will be neceſſary, when they ariſe from venereal affection.

HÆMORRHOIDS, OR PILES.

DESCRIPTION. When the veins in and about the rectum are diſtended with, or diſcharge blood, they produce the complaint which goes under the denomination of piles; and it is diſtinguiſhed into two kinds, the *hæmorrhoides cæcæ*, or blind piles, and the *apertæ*, or open piles.

The blind piles are called ſo when the veins are ſo much diſtended with blood, as to reſemble and equal the ſize and ſhape of peas, grapes, walnuts, or even pullet's eggs; they are alſo of a longitudinal form, appear livid, and feel like little bladders; they are ſometimes ſoft and flaccid, and give but little pain; at other times, tenſe and inflamed, tormenting the patient in great degree.

The open piles are, when thoſe ſwellings burſt and diſcharge a quantity of blackiſh grumous blood, preceding or ſubſequent to the fæces, ſometimes the diſtenſion and irritation are ſo great as to produce painful and obſtinate ſtricture. After the burſt is over, the diſcharge is more red, and changes to a ſerous and ſlimy ſtate, the continuation of which is apt to impair the ſtrength, and ſometimes occaſions a hectic or cachectic habit.

The common ſymptoms of this complaint are, a dull heavy pain in the head or loins, vertigo, a general liſtleſſneſs, painful ſoreneſs and itching at the fundament, all which paſs off as ſoon as the veſſels burſt. If the piles have remained ſome time diſtended before they diſcharged their contents, they become firm, fleſhy-like tubercles, or tumours, bearing a duſky appearance.

Notwithſtanding the ſuggeſtions of ſome very reſpectable authors, the hæmorrhoids muſt be reckoned ſalutary, in certain degrees, particularly in atrabilious and plethoric habits, and the uſe of repellents, or too powerful refrigerants, may be pro-

ductive of much miſchief. When they are ſimply cauſed by compreſſion from obſtructed fæces, or an adjoining tumour, as ſoon as the cauſe is removed, the effect will ceaſe; but when the complaint is conſtitutional, temporary relief only is to be had, and that ſeldom without hæmorrhoidal diſcharge or topical bleeding. Inſtances are recorded of a regular monthly diſcharge from piles for ſeveral years together, in the male ſubject.

In weak or groſs habits, it will be ſometimes neceſſary to check this, otherwiſe ſalutary diſcharge, particularly when the tubercles bleed ſo profuſely as to threaten dropſy, or cachexy. In caſes of this kind, they are ſometimes ſituated ſo high up the rectum as to be inacceſſible to common means.

Causes. Compreſſion from indurated fæces, coſtiveneſs, geſtation, ſcirrhous, or other tumours in or near the rectum; ſedentary and high living, conſtitutional plethora, &c. alſo, contraction of the ſphincter ani on the protruding pile or tubercle, which occaſions great torture.

Cure. The blind piles, ariſing from the three firſt cauſes, are generally relieved by gentle laxatives, ſuch as cream of tartar, and waſhed flowers of ſulphur, with electuary of caſſia; ſulphur troches, with nitre, &c. internally: externally, a liniment made of ſimple ointment, one ounce; and oil of box, once ſcruple, or with Goulard's cerate; poultices with white bread, or linſeed meal, with or without laudanum, or a ſolution of opium in water may alſo be applied. When ſtiff, inflamed, or exceedingly painful, topical bleeding with leeches, or ſcarification with the lancet, is highly uſeful, and if the parts feel heated, ſitting upon a hard ſeat gives comfortable relief. If the tumours grow ſo large as to obſtruct the paſſage of the fæces, create great pain, and are ſituated within reach, extirpation will be neceſſary, otherwiſe they may degenerate into ulcer or fiſtula; in doing which, the ligature

ture is to be preferred. When the baſis is broad, if poſſible the double ligature ſhould be paſſed through, and tied diſtinctly as on the ſcirrhous tonſil.

When the hæmorrhoidal diſcharge is too copious, or ſo frequent in its return, as to reduce the patient extremely, cooling and diluting medicines with the infuſion, decoction, or juice of yarrow, the juice of nettles, decoction of bark with ſpirit of vitriol, and aſtringent injections, little in quantity, and often repeated, are likely to be efficacious. Should this kind of treatment fail, a ſilver or leaden tube wrapped round with ſoft rag, is recommended to be inſerted into the gut, as is alſo the appendicle of the blind gut of ſome ſmall animal, to be thruſt up the inteſtine in the flaccid ſtate, then filled, by means of a ſyringe with cold water, and tied quite tight at the open end; a piece of hog's gut, tied up at one end, may be made to anſwer the ſame purpoſe, towards compreſſing the bleeding veſſels that are ſeated high up the rectum; but ſuch as are within reach ſhould be ſecured by the tenaculum and ligature.

FISTULA, *near to, and in the* ANUS.

DESCRIPTION. The appellation of fiſtula ſhould be confined to ſinuous callous ulcers, but its uſe is further extended to collections of matter formed upon the buttocks, and about the rectum; which, from that part being looſely enveloped with cellular and adipoſe membrane, are too apt to form ſinuous ulcers. Diſorders of this kind have different appearances and conſequences, according to the nature of the patient's habit, and may juſtly be divided into two kinds, the incomplete, and the complete.

The incomplete, or abſceſs kind, attacks the patient under various forms; and by neglect, miſmanagement, or ſome conſtitutional cauſe, may in time become truly complete.

One ſpecies of this kind makes its attack in form of a phlegmon, or circumſcribed tumour, is at-

tended with much inflammation, ſoon ſuppurates, and is commonly critical.

Another begins with inflammation, which ſpreads about ſuperficially; the part is not much tumefied, the ſkin appears of a duſky eryſipelatous colour, the cellular membrane becomes ſloughy, and yields but little matter.

A third is more formidable, and wears a gangrenous aſpect. The cellular and adipoſe membrane are both much affected, the ſkin appears of a duſky red, and the whole of the teguments are but little ſwelled, give no great reſiſtance to preſſure, and form into diſtinct looſe ſwellings, ſomewhat reſembling the anthrax or carbuncle. The ſymptoms at firſt are, great thirſt and reſtleſſneſs, frequent chilly fits, with a full jarring pulſe; in the progreſs of the diſeaſe, a numb, aching, ſhooting pain in the part, attended with inceſſant watching; the urine is dark and turbid, the pulſe becomes quick, weak, and unequal, and the ſtrength declines greatly. The integuments are gangrenous and ſloughy throughout the diſeaſed part, a ſmall quantity of matter forms ſuperficially, and ſometimes a deep ſeated ſore.

It often happens that this complaint has great influence on the bladder, vagina, urethra, and rectum; creating ſtrangury, dyſury, diarrhea, and teneſmus. Sometimes an abundance of pus and deep ſloughs are formed about the rectum, with moderate ſymptoms; at other times, a ſlight hardneſs only is to be perceived near the anus, which ſuppurates gradually and painfully, and breaks with a ſmall opening, diſcharging more or leſs matter, of good or bad quality, according to the cauſe and conſtitution.

In ſome inſtances, the matter borders cloſe upon the rectum, perinæum, or membranous part of the urethra, and pervades them in one or more places. It has alſo been known to form high up in the pelvis, near to the os ſacrum in venereal caſes; and to

communicate with the proſtate gland, producing great miſery to the patient. An abſceſs is ſometimes formed near the anus, and makes its way through the gut only, remaining entire externally, in which ſtate it is called the blind internal fiſtula. Thus far relates to the deſcription of ſinuous abſceſſes in thoſe parts, which are vulgarly termed fiſtulæ.

The true complete fiſtula is a deep ſeated, narrow, callous ſore, or ſinus, diſcharging a thin, acrid ſanies, and moſt commonly proceeding from neglect, intemperance, miſmanagement, or a bad habit. When it takes its riſe from a ſore formed near the vertebræ of the loins, the pſoas muſcle, or os ſacrum, and is the effect of lues, ſcrofula, &c. forming ſinuſſes round and into the rectum, and burſting at the anus, it too often proves deſtructive.

Causes. Fever, variolous matter, hæmorrhoids, hard-riding, intemperance, diſeaſed proſtate gland or urethra, and a bad habit, the true fiſtula is moſtly cauſed by neglect or bad management.

Cure. No particular method of treatment can be laid down as ſuitable to every ſtate of this diſorder. Abſceſſes forming about the parts ſubject thereto, are not eaſily to be diſperſed, neither is it adviſeable in moſt caſes to make the attempt, as they commonly afford neceſſary relief to the habit. The principal buſineſs of the ſurgeon then is, to regulate the inflammation, aſſiſt ſuppuration, diſcharge the matter by a timely inciſion, open ſinuſſes, and heal from the bottom.

If the tumour is of the phlegmon kind, and the ſymptoms are violent, which is generally the caſe in ſanguineous conſtitutions, bleeding and gentle evacuations will be proper, and the common poultice ſhould be repeated every four or ſix hours; and as ſoon as ſuppuration is complete, an opening ſhould be made of ſufficient extent.

If the ſkin of the diſeaſed part is of a yellowiſh

caſt, which is moſtly the caſe in bilious habits, and the inflammation has ſpread wide with no great tumour, evacuations are not neceſſary. If it has a duſky appearance, the integuments become ſoft and pappy, and have but little ſenſe of feeling, attended with languor, drowſineſs, &c. as mentioned in the deſcription, which moſtly happens to aged perſons and ſcorbutic or debilitated habits; alſo, when the diſeaſe ariſes from intemperance, evacuations are improper; inſtead thereof, cardiacs, the bark and red wine, and warm cataplaſms, become neceſſary.

The ſtrangury and dyſury are to be relieved, by bleeding, if the ſtate of the patient's conſtitution will permit, by nitre with gum arabic, or compound powder of tragacanth, mucilage of gum arabic and ſyrup of marſh-mallows in equal parts, ſolution of ſoluble tartar with manna in the almond emulſion, laxative glyſters, and the like.

In retention of urine, bleeding, and the foregoing remedies are neceſſary; alſo opiates, bladders of warm water applied to the pubis and perinæum, the warm bath, oily and anodyne glyſters, &c. Little good is to be expected from the uſe of the catheter during the inflamed ſtate, or violent ſpaſm at the neck of the bladder.

If attended with a teneſmus, a gentle laxative with oil and manna, and a few drops of laudanum, may be now then adminiſtered; alſo a thin ſtarch glyſter with the ſame drops, or opium diſſolved.

In caſe of piles, or obſtinate coſtiveneſs, bleeding and a cool regimen, ripe fruit, laxative oily glyſters, the emulſion with ſoluble tartar, and frequent application of the common poultice, with or without a ſolution of opium, will be ſerviceable.

Should the patient be afflicted with a troubleſome diarrhea, give the ſtarch mixture or decoction of burnt hartſhorn with an additional quantity of gum, tincture of opium, powdered rhubarb, and the like.

As ſoon as ſuppuration is complete, a free open-

ing ſhould be made with the knife or lancet, down to the ſeat of the abſceſs.

If the inteſtine be much denuded, or eroded by the matter, which may be diſcovered by paſſing the finger up the rectum, and the probe externally by the ſore, it will be neceſſary to lay both cavities into one; by dividing the gut with the biſtoury, from the upper part of the abſceſs where the matter formed, or at leaſt from the eroded part of the inteſtine downward, through the verge of the anus.

The curved probe pointed knife, or biſtoury with a narrow blade, is the moſt convenient inſtrument for this purpoſe; which being introduced into the ſinus, whilſt the fore-finger of the other hand is up the inteſtine, the point is to be paſſed through the opening, if there be one, (if not, one may with little force be made) and received by the finger in the rectum, and directed downward by it, ſo as to divide the whole extent with the edge of the knife, from the part where the point entered, through the verge of the anus. Thus, by a ſimple and direct inciſion, the cavity of the ſinus and inteſtine will, with great facility, be laid into one, and will moſtly anſwer the purpoſe of a radical cure equally well as when part of the gut was removed, which was the method formerly practiſed, and is ſtill perſevered in by ſome country ſurgeons.

The ſame means will alſo prove effectual when the ſore has burſt of itſelf, and the gut is denuded, or ſo perforated that the matter diſcharges itſelf, both by the anus, and the orifice of the ſore.

How far preferable this method to what is laid down by Le Dran, Cheſelden, and other practitioners, who conceived it to be abſolutely impoſſible to cure a fiſtulous abſceſs in ano, without extirpating a part of the inteſtine: firſt drawing out and retaining the parts for exciſion, by means of forceps, looped probes, and ligatures, and uſing probe ſciſſars and torturing inſtruments to operate with.

The three diſtinctions made in this complaint are the blind external, the blind internal, and the complete; which expreſſions meant to ſignify little more than the burſting or diſcharge by one or more orifices through the ſkin only, through the inteſtine without an orifice in the ſkin, or through both ſkin and inteſtine. The firſt and laſt are eaſily to be diſcovered; the ſecond, or blind internal, by matter iſſuing with the ſtool, and on preſſure; alſo, by the expulſion of air from the ſeat of the ſore into the inteſtine, which is perceptible both to the touch and the ear. The ſeat of ſuch an abſceſs may again be diſcovered, when the tumour is ſubſided, by diſcolouration in the ſkin and a kind of hardneſs, which a careful examiner can readily inveſtigate by the touch. The hollow being thus diſcovered may be ſafely plunged into with an impoſthume lancet; after which it becomes complete, and is to be treated as before directed. Sometimes, eſpecially when the adipoſe membrane is ſloughy, and the ſkin is worn thin, inſtead of there being one opening only, ſeveral will be formed, all uniting in one cavity, though frequently miſtaken for as many ſinuſſes. When the openings are few, it will anſwer very well to lay them into one another, obſerving to remove the angular points, and make a longitudinal inciſion as before down the inteſtine; but if the ſkin be looſe or tattered, with many openings, it will be neceſſary to remove the whole of the diſeaſed integuments.

In all theſe caſes, the dreſſings ſhould be of the mildeſt nature, and ſhould not be crammed into the ſore: a ſoft pledget of lint ſhould be placed between the edges both of the external wound and of the gut, if divided, and a pledget of ſoft lint or tow ſpread with a bland cerate over all: afterwards a thin compreſs, and the T bandage.

In the complete fiſtula, as here repreſented, proceeding from diſtempered habit, neglect, uncleanlineſs, and intemperance, it will be neceſſary to correct

rect or remove their general cauſes before the ſurgical part can be regularly undertaken. As ſoon as this is done there will be a viſible alteration in the aſpect of the ſore and in the diſcharge. The ſinuſſes ought then to be divided in ſuch a manner as to prevent a lodgment of matter, and the longitudinal opening may be made down the rectum. The callous parts in the ſinuſſes may be ſcarified with the knife or lancet, and red præcipitate rubbed fine, and mixed up in moderate proportion with a ſoft digeſtive or cerate, ſhould be ſpread on ſoft lint, and applied thereto. If from a number of openings, or from the flabby, ragged, or indurated ſtate of the edges near the anus, there can be no likelihood of healing ſoundly, ſuch a portion as tends to impede the curative proceſs, muſt be removed.

The dreſſings ſhould in general be light, eaſy, and ſuppurative, and be repeated twice a day, or occaſionally after a ſtool; to regulate which latter particular, a doſe of rhubarb will be now and then of uſe. The ſuppurative proceſs alone may be applied for a few days in the complete kind, and will tend to bring the diſeaſed parts into a more regular ſtate. Fungus in the ſinus, as elſewhere, muſt be kept down by the lunar cauſtic.

Age, ſtrength, conſtitutional or incidental diſeaſe ſhould be particularly attended to, and reſt and regimen muſt be enforced. Diſeaſes of this kind happening in cachectic, ſtrumous and venereal habits, are in general rather difficult of cure: but when they proceed from ſores formed high up in the pelvis, they may be for a time palliated, but are moſtly productive of a fatal decline.

FISTULA *in* PERINÆO.

DESCRIPTION. In this complaint is comprehended, not only the ſinuous and callous ulcer in perinæo, but alſo ſores which open into the bladder, ſcrotum,

and penis, diſcharging urine and matter, and being more or leſs hard, tumefied, and painful. Le Dran, in Obſ. LXXVIII. gives an inſtance of ſucceſsful treatment, wherein the ſcrotum and perinæum were much indurated and enlarged, full of fiſtulous ulcers and ſinuſſes, diſcharging a mixture of pus and urine; and where the calloſity in the part from whence the urine firſt burſt forth, was full two inches thick.

This diſorder were of times conſequent to the bruiſing and laceration of the parts after the operation of lithotomy in the old way, but ſeldom occurs after the lateral operation.

Causes. Wounds, lacerations, and all ſuch kind of injury done to the urethra and neck of the bladder; obſtructions of long ſtanding; inflammation and abſceſs; gonorrhea virulenta; calloſities and ulcerations in and about the proſtate gland from venereal infection, &c.

Cure. When this complaint takes its riſe from obſtruction in the urethra, the bougie is particularly neceſſary; every ſinus muſt be opened to its full extent, and the portion of calloſity, which is not likely to be reduced by ſuppuration and diſcharge, muſt be removed by the ſcalpel.

The beſt mode of operating on this occaſion is, to paſs a ſtaff beyond the place whence the urine is diſcharged, which inſtrument is to be held firmly, whilſt the ſurgeon makes an inciſion into and purſues the ſinuſſes, with the help of a probe introduced at the external openings of the ſore, which may ſerve as a director to the knife or biſtoury.

A bougie or flexible catheter is generally introduced into the paſſage, beyond the part where the obſtruction or ſore extends to, and kept there to prevent adheſion or contraction, to wear down obſtruction, and to divert the urine from the ſore; many a deſperate caſe of this kind has been thus cured; but the ingenious and experienced Mr. Bell declares, that both theſe inſtruments are unneceſſary

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and injurious, except in obſtruction, when the bougie is required as uſual. It muſt undoubtedly excite much pain and inflammation to attempt the uſe of either, whilſt the wounded parts remain turgid after the operation, but they muſt be of great uſe afterwards.

At firſt, it will be proper to place ſtrips of lint lightly between the lips of each opening, and to apply a pledget of lint ſpread with ſoft ointment over the whole of the ſore, with proper compreſs and bandage. If the edges be hard and tenſe, and do not ſeem likely to digeſt or ſuppurate, the cataplaſm with bread and milk will be requiſite, and a courſe of medicine ſhould be purſued agreeable to the vitiated ſtate of the conſtitution.

MORTIFICATION *of the* TOES *and* FEET.

DESCRIPTION. This complaint is moſtly preceded by an obtuſe pain in the foot and ankle; it generally appears firſt in form of a black ſpeck at the end or on the ſide of one of the ſmall toes; the cuticle is there detached, and the cutis is of a dark reddiſh colour; its progreſs is ſlow or quick, according to circumſtances; the pain becomes more violent, and is accompanied with a ſenſe of burning heat. If not checked at firſt it ſpreads from toe to toe, and ſometimes ſuddenly over the whole foot up to the ankle, where it commonly ſtops for a while, and contaminates the whole maſs of fluids.

CAUSES. The cauſes are in general, an acrid ſtate of juices, and a languid circulation.

CURE. The treatment of this diſorder is differently directed by men of the greateſt ſkill.

One orders bark, cardiacs, warm antiſeptics, and poultices, ſcarifications, and the removal of the dead part, fomentations, and ſtrong digeſtives.

Another confides principally in repeated doſes of opium,

opium, and applications of the mildeſt kind; ſuch as warm milk and the emollient poultice, and prohibits ſcarification, as well as the removal of the dead part, if in the leaſt degree attached.

A third denies the good effect of opium when frequently and largely exhibited, and declares that it has a much better effect when applied externally; alſo, that much depends upon external applications, recommending an ointment of a thin conſiſtence made with pitch, oil, and wax, to be applied; alſo an anodyne emollient cerate, compounded of diachylon, marſhmallow leaves powdered, or linſeed meal, opium, pitch, oil, and a little wax.

Experience has proved the following means to be efficacious, in a few inſtances where the toes were ſphacelated. Opium in moderate doſes, repeated according to the degree of pain and irritability; full doſes of bark, and red wine or madeira as a cordial, a few grains of rhubarb occaſionally, and a cataplaſm made with two thirds white bread and milk poultice, and one third of the poultice made of ſtrong beer grounds and oatmeal flour, the latter in greater proportion when the parts are ſphacelated. Neither ſcarifications nor digeſtives were employed, and the parts ſeparated of themſelves. The good effect of the fermenting poultice made of wheat, flour, honey, water, and yeaſt, as mentioned under the article MORTIFICATION, have been alſo proved with the foregoing internal proceſs.

VENEREAL DISEASE.

This complaint is ſaid to have been brought by Columbus and his aſſociates from America into Spain, in the year 1493, and was not long after diſſeminated throughout Europe, and its diſtant connections.

The virus by which it is communicated is different from every other infectious matter, and is more or leſs malign,

malign, according to the nature of the conſtitution on which it acts. In hot, bilious, or irritable habits, it makes its appearance in a few days with great virulence; in the cold phlegmatic temperament, it lies concealed for ſome time longer, and is ſeldom violent.

It is divided into two ſtates, the local, and univerſal; or, as they are otherwiſe termed, firſt and ſecond infection.

A doctrine has been lately advanced which few ſurgeons would chooſe to practiſe by; namely, that the ſecond infection cannot be generated from the firſt; poſſibly ſo, when the parts expoſed to the virus are perfectly ſound: one truth, however, is clear, that it is not likely to be ſo under proper management.

The terms local or firſt infection mean the ſole affection of the genitals and the adjacent parts, which ſtate of the diſeaſe is called *gonorrhea* or *clap*; whereas univerſal or ſecond infection ſignify, that the whole habit is vitiated; which ſtate goes under the denomination of *lues* or *pox*. The virus may be communicated by the lips, ſaliva, nipples, genitals, &c. and firſt manifeſts itſelf on thoſe parts by which it was received.

GONORRHEA VIRULENTA.

Description. The Gonorrhea or Clap is an increaſed diſcharge of mucus, of an infectious nature, from the urethra in men, and the vagina in women; and is diſtinguiſhed from other diſcharges by the following circumſtances, conformable to the difference of ſex. Involuntary erections of the penis or clitoris, fulneſs and uneaſineſs of thoſe parts, great heat of urine, reſtriction of the frænum, and incurvation of the penis, phymoſis, paraphymoſis, chancres, verrucæ, and excreſcences, bubo, hernia humoralis,

moralis, tumour, abſceſs, and fiſtula in perinæo, obſtructed urethra, and weakneſs or gleet.

The general courſe of ſymptoms in men is as follows: about the third or fourth day after receiving the infection, the patient perceives a titillation and itching at the extremity of the urethra, particularly after making water, alſo a hardneſs and redneſs at the end of the glans penis, the orifice of which is more open than uſual, with a rotatory motion of the teſticles: ſoon after the linen begins to be ſpotted with a ſlight diſcharge of whitiſh ropy mucus, of which he is juſt able to ſqueeze a drop or two from the end of the penis: heat and pricking pain in paſſing urine ſoon follow, the diſcharge becomes thinner, is more in quantity, and of a purulent colour tinged with green; the patient is now troubled with involuntary erections, a compreſſed ſenſation in the penis, ſtrictured frænum, and incurvation of the glans and body of the penis, particularly when warm in bed; and the heat and pain is felt higher up in the urethra. Every ſymptom of inflammation ſtill goes on, and the perinæum feels full, hot, and painful, particularly when ſitting; the diſcharge is of a more green hue, and ſometimes tinged with blood. Proper remedies having been adminiſtered, the ſymptoms gradually abate, the running grows thick, ropy, and white, and decreaſes in quantity; a ſtringy matter comes away with the urine, in which it is to be ſeen floating, a drop or two of gluey mucus now and then cloſes the extremity of the urethra, and the complaint ſoon goes entirely off.

This is the general order of the ſymptoms, yet liable to variation in different ſubjects. Other ſymptoms ſeldom appear, except from a high degree of inflammation or virulence, neglect, or miſmanagement.

The progreſs of the diſeaſe is much the ſame in women, allowing for the difference of parts; but it is remarked, that the inflammatory ſymptoms ſeldom

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run ſo high with them as with men, and that the diſcharge commonly laſts longer.

The phymoſis, paraphymoſis, bubo, abſceſs, and fiſtula in perinæo, verrucæ and excreſcences, and the obſtructed urethra, have been already noticed under their particular denominations, together with their treatment; alſo the nature and cure of chancres, as ſpecified under the article Venereal Ulcer. The hernia humoralis and gleet are the only ſymptoms then which remain unnoticed of the firſt infection, and are ſometimes found to be the moſt troubleſome.

Hernia Humoralis. When the diſcharge from the paſſage is ſuddenly checked, inflammation and tumour on the groin or teſticle commonly follows; the latter is moſt likely to feel the bad effects of it, when the ſtimulus falls upon the ſeminal or ſpermatic veſſels. The firſt ſymptoms of this ſpurious hernia, as it is called, are, a dull heavy pain in the teſticle, and up the ſpermatic cord, and an enlargement of the epididymis; afterwards the teſticle itſelf ſwells, the pain is more acute, and ſtrikes up the ſpermatic cord into the loins; inflammation increaſing, a phlegmon is ſometimes the conſequence, and, without proper care, may terminate in abſceſs, gangrene, or ſcirrhus, according as the conſtitution is inclined to favour inflammation, eryſipelas, or œdema. The ſudden ſtoppage of the running ſometimes produces much pain and irritation about the anus, teſticles, and neck of the bladder, without tumefaction; in which caſe the urine generally paſſes with great difficulty, and in ſmall quantities: theſe ſymptoms are ſoon relieved by a doſe or two of calomel and opium, which will allay the irritation, and enable nature to purſue her regular courſe.

Gleet and Seminal Weakneſs. Theſe complaints may ariſe from relaxation, or ulceration in the lacunæ, the verumontanum, proſtate gland, or excretory ducts of the veſiculæ ſeminales, which are frequently the con-

conſequents of a gonorrhea. The gleet is often produced by over-purging during the progreſs of the diſeaſe, the ſeminal weakneſs ſometimes by other cauſes. When the gleet is the effect of relaxation, it leaves a ſpeck upon the linen, appearing like a drop from the white of an egg; if it come from the glands in the urethra or the proſtate gland, it is thinner, and ſerous; if attended with ſlight ulceration, it is more of a purulent caſt. The gleet generally partakes of the two former only, and originates from weakneſs; but ſometimes all the cauſes are conjoined, when it becomes a difficult matter to ſuppreſs the diſcharge. The complaint thus complicated has occaſioned much debility, atrophy, tabes dorſalis, and miſerable conſequences; and all perhaps from a miſmanaged gonorrhea in a weak habit.

Causes. The nature of the virus being concealed, we are under the neceſſity of forming our opinions concerning it from the effects; whence it ſeems reaſonable to ſuppoſe, that it poſſeſſes a peculiar acrid quality; and there is ſufficient authority to declare it infectious. The common mode of contracting this diſorder is by impure coition; and it is ſuppoſed to happen after the following manner:

A ſmall portion of the infectious matter being abſorbed in coitu, is conveyed to the lacunæ of the urethra or vagina, produces ſtimulus ſufficient to excite inflammation, and an increaſed ſecretion of the natural mucus, which mucus becomes tainted with the ſame acrid principle, and increaſes the excitement.

Buboes form when the inflammation and the virus, or its ſtimulus, extend to the inguinal glands, and often proceed from too early an uſe of aſtringents: phymoſis, paraphymoſis, and chancres, frequently ariſe from not keeping the parts clean, ſometimes from the virulence of the matter, and violence of the inflammation; heat, pain, and ulceration in the urethra,

urethra, from the increaſed action of the ſtimulus; thickneſs and conſtriction, with their concomitant ſymptoms, from repeated inflammation, irregular cicatrix, or an untimely uſe of aſtringent injections.

Cure. The general indications of cure are, to abate inflammation, correct the virus, and reſtore the tone of the parts. The firſt ſtage, or the inflammatory ſymptoms, are to be treated as in other parts; bleeding, when the conſtitution requires it; gentle laxatives, ſuch as purging ſalts diſſolved in a large quantity of water, a ſolution of manna and ſoluble tartar in infuſion of ſenna, or the almond milk with gum, or the following electuary:

Electuary of ſenna, an ounce and a half; powdered jalap, one dram; cream of tartar and gum arabic, of each three drams; ſyrup of roſes, enough to form an electuary.

The bigneſs of a nutmeg may be taken every night or morning, for the purpoſe of keeping the body cool, and the bowels gently open, which is all that is required of laxative remedies. Refrigerants and emulgents are alſo neceſſary in this ſtage; nitre and ſugar are generally given, diſſolved in the common emulſion, or in a decoction of marſhmallows; ſince nitre is too apt, when not covered with mucilaginous or demulcent liquids, to act as a ſtimulus on the inflamed parts. In the mean time, the parts, both internal and external, muſt be frequently waſhed with warm water, alone, or mixed with milk, or ſome kind of mucilaginous liquid. A thin mucilage of quince ſeed, or a little bland oil, may be now and then thrown up the urethra. Cleanlineſs is a material help to the cure; the cloths therefore which are worn to receive the diſcharge, ſhould be frequently changed.

When the perinæum throbs greatly, apply cloths dipped in the vegeto-mineral water, at two or three different times in the day, and at bed time; or a poultice

poultice with the crumb of bread moiſtened with the ſame liquid. Theſe, together with an opiate pill, will alſo relieve the cordee. When the inflammation is nearly ſubſided, and the diſcharge is ſtill thin and acrid, the mercurial injection hereafter noticed, or a few ſmall alterative doſes of calomel, and now and then a piece of the laxative electuary, will be uſeful.

As ſoon as the running becomes ropy, of a good colour, and leſſens in quantity, a few drops of balſam of capivi on ſugar, and mixed with the mallow infuſion, will be ſufficient; otherwiſe, the bark and aſtringent injections may be uſed. The injections may be compounded of a grain or two of ſugar of lead, white vitriol, or roch alum, diſſolved in half an ounce of water, or more, agreeable to the irritability of the habit, as theſe parts will be differently affected in different ſubjects. Such are the general ſymptoms, cauſes, and rational modes of treatment in this ſtage of the diſeaſe; but unfortunately for many, too much ſtreſs is laid upon the ſpeedineſs of the cure.

Some bold practitioners, yielding implicitly to the doctrine mentioned at the beginning of this article, and preſuming upon a few inſtances where the virus has had a trifling effect, have ventured too ſoon upon the uſe of aſtringent injections. Others have been more enterpriſing in their practice, by aiming to preclude the diſeaſe with injections, prepared of a very ſmall quantity of the cauſtic lixivium, diluted with ſuch a proportion of water as, upon applying the ſolution to the tongue, ſhall communicate the ſlighteſt degree of warmth; ſome of which is thrown into the urethra, up to the firſt ſeat of the diſeaſe, immediately after the probability of an impure coitus. But from the degree of heat and pain in the paſſage, which has followed its uſe with ſome habits, when it has been of ſufficient ſtrength to excite the diſcharge of mucus neceſſary to carrying

ing off the virus with it, particularly in debauchees, the preventive remedy has ſometimes proved more injurious than the diſeaſe itſelf might have been.

To obviate the miſchiefs which have been known to attend ſuch practice, and the unneceſſary application of them, it cannot be amiſs in this place to inſert the following recipe, which has been celebrated as a powerful antidote, when applied immediately upon the appearance of the firſt ſymptoms, that is, juſt before the running, even when a drop of mucus has firſt lodged at the end of the paſſage; but with ſubmiſſion to the firſt authority, it may be more worthy of confidence after the inflammatory ſymptoms are diſperſed, as a cleanſer and aſtringent, than a preventive. This remedy ſhould alſo be cautiouſly applied, agreeably to the irritability of the part.

Corroſive ſublimate, mercury, hydrarg. muriat. one grain, to one or two ounces of diſtilled water.

A ſmall portion of this ſolution made warm, in the firſt inſtance, is injected into the urethra, compreſſing the part juſt below the frænum, ſo as to prevent any of the liquid from paſſing beyond the firſt ſeat of the diſeaſe in the urethra. It is repeated according to the effect it was intended to produce; namely, moderate irritation, and an increaſed ſecretion of mucus; if the parts feel extremely tender, it will be proper to alleviate the irritation by injection of warm water, or bland oil; obſerving the ſame precaution in compreſſing the parts ſo as to confine the liquid within the upper part of the urethra.

Moſt of the principal modern writers on this diſorder are of opinion, that the gonorrhœa is local, and that the lues cannot be generated therefrom but by an abraded or ulcerated ſurface. Dr. Neſbit, in his Firſt Lines of the Theory and Practice in the

Venereal Diſeaſe, thinks the chief indication, at the firſt appearance of it, is to ſubdue the irritability of the parts; to which end he uſes a ſtrong ſolution of opium in water, bland oil, or mucilage of quince ſeed; a ſmall portion of which he injects up to the ſeat of the complaint, every two hours at leaſt, retaining it there about half a minute each time. This proceſs, he ſays, will produce a quick effect on the ſymptoms, and that little elſe will be neceſſay in ſlight caſes; but that the running may continue troubleſome in lax habits; when, ſuppoſing the inflammation to be yet trifling, he propoſes mixing a ſlight ſolution of ſugar of lead with that of the opium, or uſing the ſaturnine ſolution, if any further aſtringent be neceſſary.

Hernia Humoralis. The principal means for its relief and cure are, bleeding, topical with leeches particularly, agreeably to the nature of the habit, and the violence of the ſymptoms; laxatives, and refrigerants, with full doſes of opium, or Dover's powder, lenient glyſters, with oatmeal gruel, oil and honey; cloths dipped in cold ſaturnine water, or poultices with that and crumb of bread, ſometimes of the emollient kind, after having expoſed the parts to the ſteam of hot water, more particularly when the ſymptoms have been aggravated by a ſuppreſſion, or ſudden decreaſe of the running. As ſoon as the inflammation is ſubſided, mercurials are neceſſary, internally, or by inunction, in order to remove the inflammatory diatheſis, or to reſolve the hardneſs which generally remains in the epidydimis, and ſometimes in the teſtis itſelf.—Vide *Scirrhus* and *Sarcoma*.

When this complaint remains obſtinate, a briſk vomit or two with ipecacuanha and emetic tartar, will ſometimes occaſion the ſymptoms to remit, even in the inflammatory ſtage. Should abſceſs or gangrene ſupervene, proceed as under thoſe articles.

If, after all, the parts continue enlarged and indurated, which is moſtly the caſe with the epidydimis, the cortex, pills with cicuta and calomel, and the poultice with bread and milk, or linſeed meal, and a moderate portion of the leaves of cicuta bruiſed or powdered, and of the ſcraped root, if in the winter, are likely to reduce the parts. After repeated relapſes, the bark and cold bathing have had good effect on relaxed habits. Electricity has been ſerviceable in inveterate ſcirrhus of theſe parts. —Vide *Scirrhus*.

It will be indiſpenſably neceſſary during the inflammatory ſtate, for the patient to keep himſelf in a recumbent poſture; and, at all times, to ſupport the part in a bag-truſs, or by means of a commodious bandage. Opiates muſt be occaſionally given.

Gleet, and Seminal Weakneſs. The gleet is not eaſily to be remedied without regular diet, and reſtraining the paſſions. Strong exerciſe, high ſauces, frequent venereal intercourſes, &c. have often produced relapſe, when the cure was nearly compleated. If it aroſe from relaxation only, the cure is not difficult, but if the excretory ducts or ſeminal veſſels be eroded, phthiſis, or tabes dorſalis, is moſt likely to follow.

The mode of cure is the ſame in every ſtate of this complaint. Aſs's, goat's, or cow's milk, lime-water and milk, decoction of ſarſaparilla and ſaſſafras, with bark and elixir of vitriol, will generally ſuffice in the gleet that ariſes from relaxation, attended with an acrid ſtate of juices: the more powerful means are, terebinthinate, or balſamic medicines, with japan earth, kino, or dragon's blood, &c. bark and ſteel, tincture of ſteel in ſpirit of ſalt, alſo chalybeate water and claret, or red port; cold applications to the perinæum, or what is more efficacious, a proper uſe of the cold bath. The cure may alſo be greatly aſſiſted by aſtringent injections made with a few grains of ſugar of lead, white

vitriol or alum, and a due portion of water as before directed; alſo, the ſolution of corroſive ſublimate, ſufficiently ſtimulating to excite the ſlighteſt degree of inflammation and increaſe of the diſcharge; in uſing which, the pipe ſhould be properly formed to throw the injection againſt the part affected. Bougies have been uſed with ſucceſs in this complaint, but they are principally beneficial in thickneſs and ſtrictures of the urethra; bliſtering the perinæum has alſo been ſerviceable. Dr. Dickſon, in Med. Obſ. vol. iii. relates the caſe of an obſtinate gleet, that was at length attended with an incontinency of urine; a bliſter was applied to the os ſacrum for relief of the latter complaint, and the bark in ſubſtance was plentifully adminiſtered; and before the bliſter was removed, both complaints ceaſed.

An obſtinate and painful incurvation of the penis, or what is called the cordée, which continued many weeks after the cure of a gleet, has been cured by the application of a bliſter to the perinæum.

LUES, *or* POX.

The ſlighteſt degree of lues will, if neglected, become a matter of the moſt ſerious conſequence; on which account, it is abſolutely neceſſary to be acquainted with the various ſigns of the diſeaſe. They are diſtinguiſhed into two kinds, viz. the pathognomonic, or certain, and the equivocal, or uncertain.

The certain ſigns or marks of lues are, ſpots, blotches, and eruptions on the ſkin, with a duſky copper-coloured baſis; tubercles on moſt parts of the body, corona veneris, and furfuracious eruptions; ulcers on the tonſils, fauces, uvula, and noſe; nocturnal pains, gummata, nodes, tophes, and ganglions; exoſtoſis, hyperoſtoſis, caries, fragility, or ſoftneſs in the bones.

The doubtful ſymptoms are, diſorders of the eye-

lids, eyes, and ears; fixed pain in the head, muſcles, or joints; affections of the animal or vital functions, ſerpiginous eruptions, atrophy, phthiſis, &c. all of which may, or may not, be free from lues.

Buboes, chancres, excreſcences, and ulcers, may alſo break out in conſequence of a bad habit, independent of a venereal cauſe.

Venereal Spots. Theſe may be diſtinguiſhed from any other ſpots, particularly from freckles, tan, or morphew, by not being confined to the face, neck, and hands, and having a copper-coloured appearance.

Tubercles and Eruptions are to be found on every part of the body, more particularly amidſt the hair of the head. They ſometimes ſuppurate, and turn to a yellowiſh puſtule, or dry cruſty ſcab, which, when ſurrounding the hairy ſcalp, goes under the denomination of *Corona Veneris*.

Venereal Ulcers in the fauces, tonſils, uvula, and noſe, are commonly round and circumſcribed, eat deep, and have a yellowiſh mucous ſlough at the bottom; they are alſo ſurrounded with a thin red ſkin, and in time, produce caries in the ſubjacent bones.—Vide Ulcers. Theſe complaints are frequently accompanied with nocturnal pains, ſpots, and other venereal ſymptoms.

Nocturnal Pains have a jarring, ſhooting, rending ſenſation, and are deep-ſeated; they principally affect the perioſteum, about the middle part of the cylindrical bones, and portend nodes, exoſtoſes, &c. They generally come on as ſoon as the patient is warm in bed, and grow eaſier towards morning.

Gummatæ and Nodes. The firſt are tumours, or thickneſſes in the muſcles, or their membranous covering; the laſt affect the perioſteum only; the ligaments and tendons are alſo ſubject to tumours, which are called tophs and ganglions, and are ranked among the common ſymptoms; but theſe

are equivocal, except accompanied with nocturnal pains, or ſome other diſtinguiſhing ſymptoms.

Exoſtoſis, Hyperoſtoſis, Caries, and Spontaneous Fractures. Theſe diſeaſes may ariſe from a confirmed lues, and are preceded by a nodous ſwelling in the part. They chiefly happen on the cranium, or in the ſolid part of the tibia and ulna, and are accompanied with violent pains in the bone, without heat or redneſs externally. Sometimes miſchief does not ſhew itſelf till the whole ſubſtance of the bone is corrupt.

The Equivocal, or Doubtful Symptoms, are generally indicated by a peculiar reſiſtance of the complaint to common treatment; if, on ſuch occaſions, there be reaſon to ſuppoſe that the patient is free from ſcrofulous or ſcorbutic diſorders, a venereal taint is the moſt likely cauſe; and the plan of cure ſhould be regulated accordingly.

Buboes, chancres, excreſcences, and ulcers in various parts, are already deſcribed as common to both ſtages of the venereal diſeaſe. When theſe complaints are conſequents of the ſecond infection, they are generally accompanied with ſpots, eruptions, nocturnal pains, nodes, or ſome other convincing type of the diſeaſe; they are alſo inclining to grow phagedenic, or fiſtulous.

Causes. Moſt inſtances of confirmed lues may be traced from a previous affection of the genitals; yet every humour, or particular mucus, may become a vehicle of the virus into the habit. It may therefore derive its origin from four different ſources; neglected or ill-managed gonorrhea; the direct application of the virus to ſome raw or leſed ſurface of the body; an immediate abſorption in coitu, without a morbid affection of the genitals; and tranſmiſſion from the parent to the child.

Cure. Various means have been employed in the cure of this diſeaſe. Much confidence was formerly placed in the virtues of guaiacum, china root, ſaſſafras,

ſaſſafras, and ſarſaparilla, ſeparately or together; at length mercury, its real antidote under proper management, was brought into uſe; but from the timidity of the regular, and temerity of the quack, that remedy ſoon fell into diſrepute. Afterwards, reaſon and experience evinced the excellence of that invaluable medicine in every ſtage of the ſecond infection, or lues; and its peculiar efficacy, when introduced into the habit in a ſlow progreſſive manner, and joined with decoction of ſarſaparilla and mezereon root, or of the woods.

Some phyſicians are ſtill of opinion, that ſalivation is neceſſary in inveterate caſes; whilſt others maintain, that it is totally needleſs. One circumſtance however is indiſputably true, that the ſlow alterative courſe renovates as it were the animal functions; whereas ſalivation leaves them much debilitated. It has been generally ſuppoſed, that the habit muſt be fully loaded with mercury to effect a radical cure; whereas, the preſent mode of adminiſtering it proves the contrary, ſince a regular perſeverance in very ſmall doſes is, in moſt inſtances, equally efficacious with the deepeſt ſalivation; and it is evident, that a complete cure has been often accompliſhed in an eaſy way by the alterative method, where the attempt by ſalivation would have proved fatal: Beſides, it is poſſible in the one to keep up the patient's ſtrength with a generous diet, the bark, air, and gentle exerciſe, which in the other, are neceſſarily prohibited. Preference then is certainly due to the milder mode of cure; and ſalivation being ſcarcely heard of except in hoſpitals, where it ſeems to be kept up by an excluſive privilege; we may fairly conclude, that the mild alterative courſe is the moſt approved practice.

The animal œconomy may be ſo impaired by a long continuance of the diſorder, as not to admit of the uſe of mercury in any mode whatever; the

diſeaſe may alſo be complicated with ſcrofula, or ſcurvy; under all which circumſtances, it will be proper to correct and ſtrengthen the habit with bark, &c. previous to the uſe of mercury, and conjoined therewith.

The cure by ſalivation ought not to be attempted during infancy, extreme old age, or pregnancy; or in perſons labouring under habitual diarrhea, or dyſentery, great weakneſs in the nervous ſyſtem, epilepſy, hæmorrhagy, fever, hectic, ſcurvy, ſcirrhus, or cancer in the womb, paralyſis, &c. whereas inſtances of perfect recovery from the lues have been known under moſt of theſe particulars, by the mild proceſs.

The principal remedies in the alterative courſe are the following:

Corroſive ſublimate, or muriated mercury, ten or twelve grains; crude ſal ammoniac, half a dram; diſtilled water, one ounce; mix well.

About ten of theſe drops contain a quarter of a grain of the ſublimate, which doſe may be given twice a day in full half a pint of barley-water, or decoction of ſarſaparilla, made as follows:

Sarſaparilla root ſliced and bruiſed three ounces, with or without mezereon root, two drams; boil in three pints of water to two. Or corroſive ſublimate one grain; malt ſpirit two ounces; tincture of opium thirty drops. Mix.

A ſpoonful or two of this is to be given night and morning in a draught of the decoction, or barley-water. It is proper to obſerve, that the ſublimate medicine is likely to create much pain in the bowels, if not covered well with a ſmooth liquid: ſhould that be the caſe, a few drops of tincture of opium,

opium, in the drinks before-mentioned; or rice gruel, muſt be taken occaſionally.

Or, Calcined mercury, from half a grain to a grain; præcipitated ſulphur of antimony two grains; opium powdered, half or a fourth of a grain; conſerve of hips, enough to form a pill: to be taken night and morning, with the decoction:

Or, Pure quickſilver two grains; conſerve of hips one ſcruple, made into a pill, to be taken at bed time.

The method leaſt injurious to the animal functions, is that of inunction. A ſcruple, or half a dram of the ſtrong mercurial ointment, is to be rubbed every, or every other night, into the thighs or legs, in the courſe of the lymphatics, and continued for a fortnight after the ſymptoms have been diſpelled, provided the conſtitution is equal to it, and the mouth does not grow ſore; drinking a pint or more of the decoction of ſarſaparilla, or of the woods, daily. The effect of the mercury by unction will ſometimes require to be aſſiſted by one or other of the internal means, more particularly when the diſeaſe is at ſuch a height, as to make a rapid progreſs in the conſtitution; and when it has violently attacked the ſoft parts in the fauces, &c. In all ſuch caſes, the ſublimate ſolutions are allowed to take the quickeſt effect, without the hazard of rendering the mouth ſore; but they are not ſo much confided in, for the radical cure, as the other preparations. If the gums be likely to become ſore, the mercurial courſe ſhould be ſtopped for two or three days, and a gentle laxative or two ſhould be adminiſtered.

Cold muſt be guarded againſt, by wearing drawers and an under waiſtcoat next the ſkin, made of flannel in winter, and of calico in ſummer; gauze flannel ſtockings ought alſo to be worn under others.

A dram

A dram of bark, taken twice a day, together with the ſarſaparilla decoction, will be a neceſſary auxiliary in delicate conſtitutions.

After this manner, mercury may be ſafely introduced, and continued, with the weakeſt conſtitutions; whereas, in ſlender hectic habits, when uſed indiſcriminately, the remedy now and then has proved as bad as the diſeaſe: the pulſe being greatly quickened by it, the body waſting, and the ſtrength daily declining. In all ſuch caſes therefore it ſhould be conveyed into the habit, as it were by ſtealth; that is, in ſmall quantities, and by ſlow degrees, ſo as not to occaſion too great ſtimulus or evacuation.

Salivation. The eaſieſt and ſafeſt method of raiſing a ſalivation is, by inunction; and the courſe may be made ſlight or full, according to the ſtate of the complaint, and the ſtrength of the patient. Previous to either, it will be proper to uſe ſome preparatory means; ſuch as bleeding in very plethoric habits, the warm bath and friction, a gentle cathartic, plentiful dilution, and a few ſuitable remedies to ſcorbutic or ſcrofulous habits.

The Slight Salivation may be brought forward by rubbing from one to two drams of the unguent made with equal parts of quickſilver and hog's-lard, into the thighs at bed time, every third, fourth, or fifth night, according to the apparent approach of the ptyaliſm, the ſigns of which are theſe:

A braſſy or brackiſh taſte, fœtid breath, whiteneſs and tenderneſs in the mouth and tongue, quickneſs of pulſe, heavineſs and pain in the head, ſlight tumour in the cheeks and neck; which ſymptoms ſhould be ſtrictly attended to before every repetition of the unction; ſince by ſuch precaution, more mercury need not to be rubbed in than will be neceſſary to promote a moderate flux of ſaliva; that is, a pint, or two pints at the utmoſt, in twenty-four hours: which quantity may, with proper care, be carried on without troubleſome ſymptoms. A doſe

of

of ſalts may be interpoſed if reſtraint ſhould be neceſſary; and on the contrary, ſhould the ſpitting abate, or the diſorder not give way, the frictions muſt be repeated at due intervals.

The patient need not be confined to his chamber, but muſt wear flannel, keep his throat and jaws warm, and be guarded well againſt cold.

The moſt ſuitable diet in this courſe is water or thin milk gruel, chicken, veal, or mutton broth, freed from fat; beef tea, pudding, and the like; meat, wine, and ſpirituous liquors ſhould be carefully avoided, and the chief drink ſhould be barley water, or milk and water. This method ought to be perſevered in at leaſt a fortnight after the ſymptoms had all diſappeared.

A full Courſe of Salivation requires much more ſkill to regulate, ſince the unguent muſt neither be adminiſtered too precipitately, nor too ſparingly; yet in full quantity to keep up a regular ſpitting. To effect this, not leſs than two drams, nor more than three of the ointment, ſhould be rubbed into the ankles, legs, or thighs, every, or every other night.

After the ſecond or third application, the ſtate of the breath ſhould be ſtrictly enquired into; and if any of the ſigns already mentioned ſhould come forward the unguent muſt be omitted, till the ſpitting has fully ſhown itſelf; if it be not regular in quantity a fourth application may be requiſite, otherwiſe the ſalivation may take its courſe, unleſs it ſhould ſtill flag. When it breaks forth profuſely, or much tumour and inflammation attack the head and face, fever riſes, &c. it will be neceſſary to check the impetus, by bleeding, glyſter, and a gentle purge or two. Small doſes of nitre with gum alſo may be now and then given in a cup of almond milk or barley water. During this proceſs the patient ſhould wear a flannel ſhirt, with drawers and ſtockings of the ſame kind, a piece of flannel under the chin,

chin, and a flannel cap, and be confined to the bed or chamber.

If after the third or fourth rubbing no ſpitting ſhould come on, it will be beſt not to endeavour to force it, but to let nature take her courſe, except throwing in a moderate quantity of the unguent at diſtant intervals.

It may be called a full ſalivation when three pints of viſcid ſaliva flows from the mouth in the ſpace of twenty-four hours; which degree of diſcharge ſhould be kept up for a fortnight or three weeks, conſtantly ſupplying the patient with diluent liquors, and thin nouriſhing broths; after which term it may be ſuffered to decline.

In caſe of diarrhea or diabetes, give rhubarb in powder, diaphoretics, and opiates; the white decoction, and broths boiled with rice.

When the mouth is ulcerated, or the ſalivary ducts are choaked up with ſloughs, let the parts be touched with honey, ſlightly acidulated with ſmall ſpirit of vitriol or ſpirit of ſalt; alſo uſe gargles with common emulſion and ſpirit of nitre, or barley water with myrrh in it. Gummata, nodes, tophs, or any local tumour ſhould be anointed with a portion of the unguent every other day.

Particular care muſt be taken to keep the gums and teeth clean, and to waſh the mouth and fauces frequently, with ſage or balm tea, or barley water, ſweetened with honey, or honey of roſes, now and then adding a little red wine; this waſhing ſhould be done before and after every draught of liquid. The patient ought alſo to be careful neither to ſwallow the ſaliva, nor to lie on one ſide long together, and, when ſitting up, ſhould incline forward: by obſerving which rules, deep ulcerations in the ſides of the mouth, and the involuntary courſe of the ſaliva down the throat will be avoided.

During the ſeverity of the courſe the moſt proper diet is of the liquid kind as before mentioned, and

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in its decline the patient may proceed by degrees, to pudding victuals, poached eggs, boiled chickens, &c. A gentle doſe or two of opening phyſic will be requiſite during the decline of the ſpitting. The beſt reſtoratives afterwards are, the bark, aſſes, goats, or cows milk, jellies, and country air: the conſtitution will alſo be much the better for a moderate courſe of ſarſaparilla decoction, and the uſe of the warm bath once or twice.

For a more full account of the nature, progreſs, and cure of this complaint, ſee the ſecond edition of Dr. Chapman's valuable abridgment of Aſtruc on the Venereal Diſeaſe, Mr. John Hunter's treatiſe, in one volume, quarto, with engravings of the diſeaſes of the urethra, or Dr. Swediaur's Obſervations on the diſeaſe.

INOCULATION.

The adventurous reſolution of the elder Sutton, and the great diſcernment and attention of Dr. Dimſdale, were the firſt cauſes of bringing this practice to its preſent perfection and ſucceſs. Every objection to its ſafety and certainty is entirely done away, and it is at this time nearly reduced to as ſimple a proceſs as in Turkey; where, we are told, it is the province of an old dame to conduct the whole.

Much ſtreſs has been laid upon preparing the patient two or three weeks before inoculation, with the moſt abſtemious diet, mercurial pills or powders, briſk purges, and other evacuations: the time of life and ſeaſon of the year have alſo been ſpecified and directed; but all theſe rigid peculiarities, which did more harm than good, are happily ſet aſide. A bleeding with ſome full habits may be found neceſſary, and mercury has great power over the diſeaſe. Some inoculators, in order to maſter it more completely, and obtain credit from its very

favourable appearance, have ventured ſo far in the uſe of it for preparation, as to excite ſalivation. Such conduct deſerves the ſevereſt reprehenſion, ſince it is needleſs with reſpect to the diſeaſe, and may do no ſmall injury to the conſtitution.

A woman in Norfolk inoculated many hundreds after no other preparation than a ſpare diet from the time of making the puncture, and two or three moderate doſes of ſalts, one of which ſhe always gave on the morning after the operation, and another at the approach of the ſymptoms. Her practice was principally amongſt farmers and huſbandmen, whoſe food in common was of the groſſeſt kind, very few of whom were much confined from their reſpective employments: and ſhe boaſted, perhaps with ſome reaſon, that none of her patients were ever hurt by inoculation.

The moſt that can be required towards preparing a perſon in tolerable health is, immediately after inoculation, to enter upon a low diet, ſuch as tea and toaſted bread, gruel with or without milk for breakfaſt; plain or plumb pudding and dumpling, with vinegar and ſugar for ſauce, bread or rice pudding, with or without currants, and apple pudding or dumpling, for dinner; perſons of very languid and infirm habits being now and then allowed a piece of boiled chicken, or mutton, with turnips and potatoes; and for ſupper a roaſted apple, turnip, or potatoe, raſpberry jam or treacle ſpread thin on a ſlice of white bread. Their common drink may be toaſt and water, or milk and water; no wine, beer, butter, cheeſe, or meat, except the latter as before mentioned. A cooling purge or two may be adminiſtered within the firſt ſix days, and the body ſhould be kept cool and temperate, during the eruptive fever particularly, by avoiding the heat of the fire or bed as much as poſſible, and taking a ſmall quantity of a decoction of ſenna with prunes, occaſionally. Infants may be gently purged

once or twice with a few grains of rhubarb, and require a ſligl. puke, or ſomething opening, during the eruptive fever.

Scorbutic, ſcrofulous, and other chronic habits, have done as well as poſſible with no other means; yet when complaints of that kind are in great degree, they require particular attention. Some relaxed habits have profited much by a doſe or two of the bark daily. It is ſometimes thought neceſſary to give, according to the age of the patient, from three to ten grains of Dr. Dimſdale's preparative powder the night before the purge, and once at the time of the eruptive fever, when the ſymptoms are oppreſſive, which is compounded after the following manner:

Compound powder of crabs claws and calomel, each eight grains, emetic tartar one eighth of a grain, to be rubbed into a powder.

Bark and antimony are ſometimes uſed as preparatives. In ſhort, the beſt general direction that can be given for preparation is, to reſtore thoſe that are much below the ſtandard of health, and not to reduce thoſe too much who are rather above it.

The chief prohibition to inoculation is at a time when inflammatory, putreſcent, epidemical, or critical complaints, prevail. Teething alſo is conſidered as a ſtrong objection to inoculation; but if the body is kept rather lax, and the ſymptoms are moderate, it may be more dangerous to defer it.

The beſt and moſt certain way of communicating the infection is, to take the matter upon the point of a lancet, freſh from a puſtule, not too much matured on the diſeaſed ſubject, and inſert it immediately after into the arm of the perſon who is to be inoculated. Lint or cotton thread may be ſated with the variolous matter, and kept cloſe ſhut up from the air, in a vial or a ſmall box, for future uſe; or it may be ſpread and dried upon a piece of ſmooth

ſmooth glaſs. After having gently breathed upon the glaſs or lint, the leaſt viſible quantity of matter is to be taken on the point of the lancet, and introduced into one or both the arms by the ſlighteſt puncture, or by ſliding the point horizontally between the cuticle and cutis, which laſt method is leaſt likely to fail.

If on the ſecond or third day after, a few circular peach-coloured pimples can be diſtinguiſhed, with the help of a magnifying glaſs, on the edges of the puncture or inciſion, the operation has taken effect. Sometimes it inflames on the ſecond or third day without diſplaying the pimples, and all diſappears again; under ſuch uncertainty, unleſs the edges ſhould be inflamed again in two or three days, the operation ſhould be repeated.

Pain and ſtiffneſs are generally felt under the arm on the fifth or ſixth day, which is a never failing ſign of the diſorder taking place, and approaching; it is generally attended with remitting pains in the head, ſhiverings, heats, &c. theſe complaints continue till the eighth or ninth day, when the eruptions begin to appear, the whole of which is complete about the eleventh or twelfth day.

As ſoon as the eruptive fever begins, it is cuſtomary to give a few grains of the preparative powder, and paſs it off with a gentle aperient. It is ſuppoſed that the famous Mr. Sutton's pill was of the ſame nature, which when the ſkin was parched and ſtiff, and a kind of eruptive heat or raſh appeared, he uſed to repeat according to the ſtrength of the patient, or violence of the ſymptoms. But the liquor of ſtewed ſenna and prunes, or a few ſalts diſſolved in a large proportion of water, ſufficient to render the bowels gently lax, will for the moſt part anſwer equally well. Sometimes a few drops of ipecacuanha, or antimonial wine will be equally efficacious, by acting either as a diaphoretic or a gentle evacuant by puking or procuring a ſtool or two, par-

particularly if the ſtomach is overloaded; which is often the caſe with children during the preparation, unleſs under proper reſtraint, and is ſometimes the occaſion of convulſions.

Balm tea or thin barley water, acidulated with the juice of Seville orange or with lemon, apple water, and ſmall tea, are proper to allay both heat and thirſt, during the ſymptomatic fever; and when the ſymptoms run high, cold water may be now and then given, if earneſtly required.

At this period of the diſeaſe the patient ſhould neither indulge himſelf with lying in bed, or ſitting by the fire, but ſhould be led or carried out into the air, be the weather bad or not, properly cloathed and ſheltered: which alone will moſt commonly abate the pains and feveriſh ſymptoms, and prevent an abundance of puſtules. The aged and infirm may be allowed a little wine whey, or ſmall red wine negus, if the pulſe be languid, and a ſlight delirium ſhould attend. Inflammation and maturation are moſtly trifling, unleſs brought on or increaſed by preternatural heat and bad management; the body therefore ſhould be kept in moderate temperature, during the whole of the proceſs: a purge or two is commonly given when the puſtules grow dry and ſcaly, and the patient ſhould gradually return to his common food.

Thus it generally happens with the regular and favourable ſort; but ſometimes no ſymptoms appear till about the ninth or tenth day, or longer, and then they come on rapidly; the puncture wearing a purple aſpect, with a narrow circle of dark reddiſh ichorous puſtules, and a depreſſion in the centre, which appearances will moſt commonly be regulated according to the ſtate of the bowels at that time; if purging, to be checked; if coſtive, to be rendered rather lax: further treatment muſt be ſuited to future appearances. The untoward ſymptoms are moſt likely to attend upon the atrabi-

lious, eryſipelatous, and ſcorbutic habit; but ſeldom run to any bad conſequences, unleſs from too rigid a preparation, being over heated, or too looſe texture of blood; in which laſt caſe the bark and antiſeptics become highly neceſſary.

The following inſtance came under the author's care ſome time ago. A woman, aged 73, of an atrabilious habit, being in danger of catching the ſmall-pox in the natural way, choſe to be inoculated: her conduct had not been the moſt prudent during preparation, in which too much mercury had been adminiſtered. The eruptive fever was attended with delirium and a weak pulſe, and the eruption was coherent, profuſe, and remained flat in the ſkin on the fourth day, with a dark purpliſh hue. The bark with ſpirit of ſalt were freely adminiſtered, on the third, fourth, and fifth day from the appearance of the eruption, together with red wine, negus, and whey; upon which the inflammation had a brighter aſpect, and the pock gradually roſe and maturated. She perſevered more moderately in taking the bark and the muriatic acid, had a ſtool procured by glyſter every other day, ſucked now and then an orange, and took gruel with wine in it, and milk gruel, as nutriment, until the eleventh day, when the tumour began to ſubſide; but the puſtules continued a long time diſcharging, before they dried away.

She was more reſtleſs than common during maturation, which inquietude was ſometimes relieved by ſyrup of white poppies.

From this caſe it plainly appears, that when the pock, from a deficiency of natural heat and vigour, remains flat, and is not diſpoſed to maturate, cordials and tonics ſhould be timely adminiſtered to aged perſons; and, indeed, in ſome weak debilitated conſtitutions, at a much earlier time of life, ſuch treatment, in a moderate degree, will be found equally neceſſary at that period of the diſeaſe.

The following maxims are generally allowed: That

That no other diſeaſe is conveyed into the habit with the variolous matter.

That it is of no conſequence whether the matter be taken from a puſtule of the natural or inoculated kind, from the mild or more virulent kind: ſince the principal advantages ariſing from this practice are, the proper diſpoſition of the habit, and the mode of communication.

That the ichorous matter is more likely to take effect, than that which is nearly maturated.

That the crude matter, taken from the puncture or inciſion, before the ſymptoms have appeared, may ſuffice.

That puncture is not ſo likely to inflame and run into a tedious unneceſſary ſore as inciſion, provided neither plaſter nor any other covering is applied.

That the inflammation or puſtules round the inciſion may be checked, by applying cold water to the part, or rubbing in a little mercurial unguent.

That the natural infection may be precluded by that from inoculation, perhaps up to the ſixth or ſeventh day; the ſymptoms of the former ſeldom coming on till the fourteenth day after receiving it.

That keeping open the puncture or inciſion as an iſſue, is of no kind of uſe with regard to the diſeaſe.

And that the ſecondary fever very ſeldom attends the diſeaſe when communicated by inoculation.

ANCHYLOSIS.

This word, in its ſtrict ſenſe, has reference only to the crooked ſtate of a part, but is commonly applied to the fixed ſtate of a joint, more particularly when the bones are immoveably united or anchyloſed, as it is technically called. Till lately this complaint was ſuppoſed to be principally occaſioned by a concretion of the ſynovia. Gouty perſons, with whom

the mucus of different parts is ſometimes concreted, may be ſubject thereto; but in other caſes, the ſeat of this diſorder is either in the ligamentous or tendinous parts near or about the joints, or in the bones themſelves.

The former complaints may proceed from the limb being a long time continued in one poſition, from inflammation with or without a diſeaſed habit, and a conſequent morbid thickneſs, and rigidity of the parts; the latter ſtate is when the heads and epiphyſes of the bones become diſeaſed, either from external injury or a vitiated habit.

When it has originated from the limb being long kept in a particular poſition, it generally yields to relaxing or lubricating means; ſuch as repeatedly ſteaming the part with warm water, and afterwards rubbing in ſome neat's-foot oil, or plunging it into the body of an animal when firſt ſlain, and holding it there as long as the vital heat continues; alſo at the ſame time rubbing it over with the greaſy mucus that covers the guts. The removal of the thickneſs and rigidity of the parts is much more difficult; but ſuch complaints are ſometimes to be relieved by the means already preſcribed under the article White Swelling. Warm emollient baths, pumping Bath waters upon the part, the ſteam of boiling water impregnated with ſulphur and aromatics applied thereto, or the fall of warm water thus medicated from ſome height, followed by friction with the fleſh-bruſh or flannel, and frequent movement of the limb, have relieved the pain and heavy feel of the limb.

In ſuch caſes M. Morand ſtrongly recommends a poultice made with powdered coal and water, more particularly for rigid and contracted tendons, proceeding from large wounds; and Dr. Lobb has adviſed bathing the contracted part three times a day, with a mixture compoſed of the yolk of an egg, and ſix ſpoonfuls of pure water.

SACCULI MUCOSI.

These bags are chiefly placed near the joints, and the fluid secreted therein serves to facilitate the motion of the compact tendinous parts, which play over the heads of bones, or upon one another.

Some practitioners not being sufficiently acquainted with the situation and connection of these bursæ or sacculi, have been deceived with respect to the discharge that flows from abscesses and wounds affecting them, and have falsely concluded, from its similitude to the synovia of the joints, and the contiguity of the injury to those parts, that it proceeded from within the capsular ligament. The discharge from the bursæ mucosæ is, in common, a thin fluid mixed with small concretions; yet in such cases no absolute decision can be made from the discharge alone: in order therefore to form a proper judgment of the nature and true seat of the sore, it will be necessary to attend to the violence of the symptoms, and to examine carefully with the probe. Tumours in these parts are mostly the effects of strains and bruises, give way to pressure more, and with much less pain than those which contain common pus, and are seldom attended with much pain; whereas, inflammation of the capsular ligament and joint, is attended with vehement pain, much fever, delirium, &c.

The seats of the sacculi, as enumerated by former authors, are as follow:

Deltoides. A large one situated under this muscle upon the acromion scapulæ.

Biceps Brachii. A small one investing the tubercle of the radius, which lies under the tendon of the biceps, and part of the supinator brevis.

Iliacus Internus and Psoas. A large thin one, under the tendons of those muscles, as they pass down to their insertions in the os femoris.

Latissimus Dorsi and Teres Major. One between the extremities of their tendons.

Glutæus Maximus. A large thin one, partly connected to the back of the trochanter, lying under the termination of the glutæus medius, and loosely attached to the reſt of the trochanter, and the tendon of the glutæus maximus.

Glutæus Medius. A ſmall one, between the termination of its tendon, and that of the pyriformis.

Glutæus Minimus. A ſmall thin one, attached to its tendon and the trochanter major.

Gemini. A ſmall one, between theſe muſcles, and the end of the obturatus internus, connected with both, and with part of the capſular ligament.

Biceps Cruris. One between the end of its tendon exteriorly, and the capſular ligament of the knee.

Semimembranoſus. A ſmall one, between its tendon, where it runs between the inner condyle of the tibia, and the capſular ligament.

Cruralis and Vaſti. A large thin one, connected with the tendons of the muſcles, and fixed to the patella, adhering alſo to the capſula of the joint.

Gracilis, Sartorius, and Semitendinoſus. A large one, ſituated under the ends of their tendons, adhering to them on one ſide, and to the burſal ligament on the other.

Gemellus. A large one, firmly attached to its tendinous origin, to the end of the ſemitendinoſus, and to the capſula near the interior condyle.

Solæus. A large one, between its tendon, where it paſſes over the upper part of the os calcis, and that bone.

Tibialis Anticus. A ſmall one, fixed to its tendon, where it works upon the top of the foot.

Peronæus Longus. One under its tendon, where it works upon the os cuneiforme, on the outſide of the foot.

Dr. Monro, of Edinburgh, the late Profeſſor, has thrown great light upon this ſubject: he ſays that the burſæ are numerous about the joint of the ſhoulder. That they are both numerous and large

about the joint of the thigh, eſpecially on the great trochanter, under the inſertion of the glutæi, and alſo under other large muſcles. That they accompany the tendons which run along the wriſt and ancle, ſurrounding them like capſular ſheaths; and are interpoſed betwixt the tendons and the ſkin, as well as the tendons and the bones: but that the largeſt are thoſe about the joint of the knee, belonging to the quadriceps extenſor cruris, where there are ſeveral two or three inches in length, capable of containing ſeveral ounces of fluid.

He alſo proves, that they reſemble the capſular ligaments of the joints, conſiſting of the ſame coats, and having a ſimilar ſecretion poured into their cavities. He has found in all about 140; 33 in each of the ſuperior, and 37 in each of the inferior extremities: which is about 100 more, than were diſcovered before by Albinus and others.

OPENING A DEAD BODY.

The neceſſary apparatus for this operation is knives, a razor, a large and ſmall ſaw, ſtrait and crooked ſciſſars, elevators, needles threaded, ſpunges, tow, ſawduſt or bran, baſons with water, towels, receivers, vinegar, and lavender-water.

The body ſhould be laid upon a table of convenient height, and be decently covered; the contents of the cavities may be then examined or removed, as the nature of the caſe requires.

The *Head* is to be opened by making an inciſion acroſs from ear to ear, down to the bone; then diſſecting up ſuch a portion of ſcalp from the ſcull, as will make room for the ſaw, turning it down over the face and neck. The ſaw is then to be ſet on at the middle of the os frontis, and carried round to each temporal bone, obſerving to end in the middle of the os occipitis. The divided part of the ſcull is then to be raiſed with the elevator, and its

connections with the dura mater ſhould be occaſionally divided, after which the brain may be carefully taken out, ſeparating the attachments of the membrane as it becomes neceſſary.

The method of opening the *Abdomen* and *Thorax* together is, by firſt making an inciſion on each ſide of the ſternum, in the courſe of the cartalaginous parts of the ribs, diſſecting back the teguments two or three inches, and cutting through the cartilages with a ſtrong-bladed knife, rather curved at its point. The inciſion is then to be continued from the ſternum, obliquely over the abdomen, down to each ileum or inguen; after which the clavicles may be ſeparated from the ſternum, which bone being diſſected from the mediaſtinum, may be turned downwards together with the abdominal covering.

To remove the *Viſcera* of the *Thorax* and *Abdomen* together, it will be neceſſary firſt, to divide the *diaphragm* down to the ſpine on both ſides; when two very ſtrong ligatures ſhould be made at a proper diſtance from each other, round the *æſophagus* and *large blood veſſels*, including the *trachea*; then obſerving carefully to divide theſe parts between the two ligatures, the ſame is to be done with the *inferior veſſels*, a little above the *bifurcation* of the *aorta*, including the *vena cava*, and upon the *rectum*. The *viſcera, with the diaphragm*, are then to be cloſely diſſected away.

If the *viſcera of each cavity* are required to be ſeparately removed, the ligatures upon the veſſels muſt be made juſt above and below the diaphragm.

To open the *abdomen only*, a longitudinal inciſion is generally made from over the *enſiform cartilage* to *ſymphyſis pubis*, interſecting it at right angles, with another at the navel, ſo that the different ſections may be reverſed, and the contents be properly expoſed.

The parts are to be neatly and regularly ſewed up with the glover's ſtitch.

Great

Great care is neceſſary, upon all occaſions, to correct the putrid effluvia, which may be generally done by ſpunging the parts with vinegar and brandy, and ſprinkling them with lavender or hungary water. When the body is extremely putrid, more powerful means are required to defend the ſurgeon from its noxious effluvia, ſuch as ſtopping up the ears and noſe, and being frequently enveloped with the ſteam, from a ſtrong ſolution of myrrh in vinegar, by repeatedly pouring that, or the gum itſelf, on an ignited iron, or common heater placed in a fire pan, or ſuch like receptacle, and now and then gargling and waſhing the mouth with brandy.

EMBALMING.

The ſurgeon is very ſeldom called upon to perform this office, except upon the death of ſome great perſonage; yet it cannot be thought improper in a book of this kind to give ſome account of the means which were ſaid to have been uſed abroad on ſuch an occaſion.

The face and hairy parts being cloſe ſhaved, and the contents removed from the thorax, abdomen, head, and orbits of the eyes, each cavity was well cleanſed with vinegar and water; and after the moiſture in every part had been perfectly abſorbed by ſpunge, and the whole wiped dry with warm cloths, the inſide of each was waſhed with a ſolution of ambergreaſe, in hungary water, and filled with the compoſition hereafter mentioned, groſsly powdered; after which the eyelids were cloſed, and the reſt of the cavities were ſtitched up with the glover's ſuture; the mouth was alſo well cleanſed, and filled with the powder: the whole of the external ſurface was then lightly rubbed with eſſential aromatic oils, in which a little ambergreaſe had been diſſolved, and covered with proper cloths and rollers ſpread with a cerate, compoſed of reſin, wax, gum ſtorax, and

and ſheep's ſuet; a double ſtay, ſpread with the ſame, was alſo ſpread under the chin, and faſtened upon the upper part of the head. The brain and viſcera well cleanſed, and covered with the aromatic powder, were put into a leaden cheſt, and ſoldered down; and the heart, after being properly cleanſed, and its cavities well filled with the powder and ſewed up, was placed in a ſilver urn.

Inciſions have ſometimes been made into the fleſhy parts, which were firſt cleanſed and properly filled with the powder, afterwards covered with the reſt of the body.

Mr. Gooch prepared his cere-cloth with wax, reſin, ſtorax, and painters drying oil; which compoſition being made of a fit conſiſtence, and heated to a proper degree, he ordered to be laid on with a bruſh in moderate thickneſs, to which a faint fleſh colour might be given with vermillion; and propoſed this covering, when cold and ſtiff on the part, to be lightly ſtruck over with hard varniſh; he alſo thinks, that a varniſh of that kind, thickly applied, might be uſed alone. He advices a cap to be well adapted to the head, with a flap falling down upon the neck, and to be ſewed under the chin; and a few circular turns to be made with a broad roller round the neck: all the reſt of the corpſe to be incloſed in a ſheet artfully cut, and ſewed on very cloſe and ſmooth, with the fineſt herring-bone ſeam, then dreſſed and placed in the coffin.

POWDER FOR EMBALMING.

Lavender and roſemary flowers, each four pounds; the tops of wormwood, Arabian ſtæchas, ſouthernwood, with the leaves of the Syrian maſtiche, aloës-wood, and calamus aromaticus, each three pounds; of the gums, myrrh, ſtorax, benjamin, frankincenſe, and the bark of ſaſſafras, each one pound;

pound; nutmegs, mace, cloves, and cinnamon, each two ounces. Mix, and make into a groſs powder.

It will be rather difficult to procure every herb or flower of this receipt in exact quantity; if ſo, the beſt ſubſtitutes will be ſuch as are moſt fragrant. A few of the fragrant herbs, and gums in due proportion with the above quantities, will anſwer the purpoſe equally well, and be more convenient as to expence, on leſs particular occaſions.

DISORDERS AND OPERATIONS PECULIAR TO WOMEN.

DISORDERS OF THE BREASTS.

Theſe like other ſoft parts, are ſubject to inflammation, both from external and internal cauſes. When proceeding from external injuries, the part is more likely to prove ſcirrhous than to ſuppurate, particularly if they affect the glandular part of the breaſt.

Milk-ſore. The inflammation which attacks the breaſts of women, moſt commonly happens ſoon after delivery, particularly if the lochia are prematurely ſuppreſſed, and the fluids are too copiouſly derived to the breaſts to admit of a regular ſecretion, or an eaſy exit. The breaſt in that caſe begins to grow turgid, is hot and throbbing, and diſtinct hardneſſes are to be felt; which if not timely prevented by art, or relieved by an efflux of the ſecreted fluid, are very likely to proceed to maturation. This kind of inflammation will, at any future period during the time that the woman continues ſuckling, be ſubject to ſuppurate upon ſlighter occaſions.

Sometimes, for want of due maturation, ſmall tumours or knots, remain in the cellular or adipoſe mem-

membrane, and the glandular part is obſtructed and grows indurated; which by neglect or miſmanagement, have laid the foundation for an incurable ſcirrhus. Such indurated tumours differ much in their nature, ſhape, and general conſequences; thoſe of the cellular and adipoſe membrane, being of an irregular form, not much attended with pain, or very hard, and ſeldom adhering; whereas thoſe in the glandular part are of the true ſcirrhous kind, round, or oval, and very hard to the touch. The former are often relieved by topical applications, the latter moſt frequently require exciſion. Theſe kinds of tumours are therefore of more or leſs conſequence, according to their ſize, depth, and the ſtate of the conſtitution, or as they affect the mammary gland.

Causes. The inflammation which preceeds the milk-ſore, may ariſe from too ſudden a diſtenſion of the mammary veſſels, an imperfect ſecretion, improper and topical applications, with deſign to prevent or repel the ſecretion, cold, an acrid ſtate of the juices, plethora, or external injury; which latter may be the cauſe of inflammation, whether accompanied with, or independent of, the milk ſecretion.

Cure. If the inflammation which happens after lying-in, be attended to in proper time, it may be checked, by keeping the patient in a half-ſitting poſture in bed, gently relieving the bowels by glyſter, or ſome other means, and giving her plenty of diluting liquors. If the breaſt feel very tenſe, it ſhould be bathed now and then with a little pure oil of olive, or if on the ſecond or third day after delivery, the milk ſecretion ſhould be irregular, and the breaſt ſwell and indurate, the common poultice, with white bread and milk, ſhould be applied night and morning at leaſt. The nurſes, to whoſe care the good women are too much truſted upon ſuch occaſions, eagerly and repeatedly put the child to the breaſt, apply glaſſes, or uſe ſome kind of means

means to draw the breaſts, as they quaintly term it, to the no ſmall pain and fatigue of the patient. But to thoſe who can reaſon upon the ſubject, it is evident, that ſuch treatment muſt do more harm than good; and that the tenſion is much more likely to be relieved by a few applications of the poultice, aſſiſted with gentle diaphoreties und laxatives. Should the complaint reſiſt theſe firſt attempts, maturation will probably enſue, and the emollient poultice is moſt likely to aſſiſt its progreſs.

As ſoon as it appears to be maturated, an opening ſhould be made ſufficient to give vent to the contents; and whilſt hardneſs remains, the poultice alone is the beſt remedy, afterwards lint ſpread with white cerate may be applied. When more than one ſore forms in the breaſt, the treatment ſhould be the ſame, taking care to make the opening for the diſcharge of their contents, at the place where nature points for it. Some quondam practitioners were very fond of poking out ſinuſſes, and formidably ſlaſhing the breaſt in every direction; but experience tells us, that it is beſt to follow nature's dictates, particularly in abſceſſes of this kind; except where her proceſs has been diſturbed by probing, tents, eſcharotics, and ſuch like rough means: and even then the more acceptable change of gentle and ſuperficial treatment, will moſtly anſwer beſt. When it is neceſſary to repel the milk, that is, when no ends can be procured without cauſing inflammation, it ought to be proceeded upon with due caution. Sometimes warm cloths will promote its diſcharge by the nipples, and carry it off; ſometimes a flux of urine, profuſe ſweats, or a copious diſcharge from the bowels: but if none of theſe excretions ſhould take place after it has returned into the habit, much miſchief may follow, particularly in weak conſtitutions. In ſuch caſes, it will be proper to uſe gentle diaphoretics, aperients, &c. otherwiſe, ſlow remitting fevers, œdematous ſwellings in the

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legs and thighs, abſceſſes under the axilla, and ſuch kind of accidents have happened in conſequence of its remaining in the habit.

If the lochia or menſtrual diſcharge ſhould be ſuppreſſed, perhaps a ſlight bleeding will be neceſſary; compreſſes dipped in Mindererus's ſpirit, properly neutralized and gently warmed, which is a more ſafe and mild repellent than Goulard water, alſo plaſters, and ardent ſpirit with camphor diſſolved in it, may be proper.

Thoſe indurations which are formed in the cellular and adipoſe membrane, are frequently reſolved by a long continuance of the bread poultice, and now and then giving a calomel pill or two with a laxative draught. Thoſe that are fixed in the glandular ſubſtance, have been known to yield to a poultice made with linſeed meal, hemlock, and decoction of chamomile flowers, as mentioned under the article ſcirrhus, accompanied with an alterative courſe of calomel and cicuta, or now and then rubbing into the habit, a ſmall portion of the ſtrong mercurial ointment. If, after proper trial the foregoing means ſhould not have the deſired effect, exciſion is the only reſource. It would be highly improper, upon any occaſion, to adminiſter the cicuta, or active medicines of any kind, before the child has been weaned.

The œdematous ſwelling in the leg and thigh, which ſometimes has encreaſed to an enormous ſize, has at firſt been relieved by the ſaline draughts in effervescence, by promoting the urinary ſecretion, with the occaſional aſſiſtance of a laxative draught with manna and ſoluble tartar. When obſtinate, a pill with calomel and camphor for two or three nights ſucceſſively, paſſed off with a mild aperient, a tightiſh bandage carried ſpirally from the toe upwards, country air, moderate exerciſe, and a dry diet have proved effectual.

The beſt application to the nipples, when excoriated, are, mucilaginous lotions, or mild cerates.

Scirrhus

Scirrhus and Cancer. Theſe complaints chiefly affect the breaſts of women. The different ſtages, cauſes, and treatment, and the general mode of extirpating ſcirrhous tumours, or the occult kind of cancer, are noticed under thoſe heads; it is intended therefore in this place, more particularly to point out the uſual mode of operating when the ſkin is more or leſs diſeaſed; and to deſcribe the mode of exciſion practiſed by Mr. Fearon, ſurgeon of the Surry Diſpenſary; in whoſe Treatiſe on Cancers, ſatisfactory proofs have been given of its utility and ſucceſs, in every caſe where the integuments could be ſufficiently preſerved for healing by primary and ſecondary union. Previous to which, it may not be improper to mention two objections to the operation, which the ſurgeon will find ſtrongly impreſſed on the mind of the patient.

It is frequently urged by the afflicted, and their numerous viſitants, that the milder complaint may remain in an indolent ſtate for many years; and that in the confirmed ſtate, there is no certainty of the operation proving effectual; both which arguments are deluſive, and tend to prevent the operation being performed in due time. In anſwer to which, it ſhould be zealouſly proved, that many knots in this part which had appeared to be of little importance, have rapidly degenerated into cancers, particularly about the end of menſtruation; and that ſome moſt dreadful cancers, in which the diſeaſed part adhered to the muſcles and ribs, and even when the latter were carious, have been cured after extirpation, and remained free from relapſe. Alſo, that it is an indiſputable fact, that the earlier in the diſeaſe the operation is performed, the more likely it is to be attended with laſting ſucceſs.

Nothing then abſolutely prohibits the operation, but when the life is likely to be immediately endangered by it, or the glandular ſyſtem and habit are two generally affected. In ſuch caſes, the means

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preſcribed under the article Cancer, ſhould be referred to. It will be alſo right, in the large ulcerated cancer particularly, to uſe the alterative courſe, together with the bark, as ſoon after the operation as the ſuppurative proceſs is confirmed.

Great improvements have been lately made in the general mode of extirpating ſcirrhous tumours from the breaſts, by preſerving the ſound ſkin which covers the diſeaſed part, in order to leſſen the dimenſion of the ſore, and heal it the ſooner; but ſome practitioners ſtill continue to ſtuff the wound with lint, and thereby impede the natural proceſs by the firſt intention, wherever ſuch means are practicable. Heretofore it was a maxim, when the tumour occupied a great part of the breaſt, to remove the whole, leaving a large open wound; but the remarkable ſucceſs which has attended the new practice of exciſion, and healing by the firſt intention, clearly proves, that the limits of the operation ought to be as confined as poſſible, except when the teguments are too much diſeaſed.

In ſcirrhous or cancerous complaints, where the teguments are diſeaſed, or adhere ſo cloſe as not to admit of being ſeparated from the tumour, one inciſion is ſometimes made the whole length, and the bad part is taken off from one or both ſides, in as ſtrait a direction as poſſible; at other times, the whole of the diſeaſed integuments are included within a circular or two ſemilunar inciſions.

The tumour which in theſe caſes is formed in the armpit, when large and firmly attached to the ſubjacent or adjacent parts, it is dangerous to meddle with, but if in the leaſt moveable, it may be ſafely diſſected away, by drawing it forward with the hook, fingers, or a ſtrong ligature paſſed through the middle of it. If a chain of indurated glands run up to the clavicle or armpit, they muſt be diſſected away by an opening continued from the breaſt, but if not particularly connected with the ſore at the breaſt, dif-

different openings may be made. It ought to be obſerved alſo, that the operation can be of little or no uſe, unleſs the tumours under the armpit be totally removed.

Mr. Fearon's mode of exciſion, and his after-treatment, are conducted after the following manner:

The patient being ſeated conveniently, with the head ſupported on a pillow, by an aſſiſtant behind, and her arms held by one on each ſide, the ſurgeon makes a horizontal inciſion, in the direction of the ribs, a little below the nipple, the aſſiſtants then draw the teguments as far aſunder as poſſible, and preſs their fingers on the bleeding arteries, whilſt the ſurgeon is diſſecting the diſeaſed maſs from the ſkin above, and the pectoral muſcle or parts below: after which, the wound being carefully examined, every ſmall indurated or thickened part is removed.

The hæmorrhage by this time generally ceaſes; but if an artery ſtill bleed freely, it muſt be ſecured by means of the tenaculum and ligature, the ends of which are left a proper length out of the wound. The whole is then ſponged clean, and the parts and edges of the wound are laid even and in perfect contact, and retained ſo by two, three, or more ſutures of the interrupted kind, according to the extent of the wound, and by the application of ſlips of adheſive plaſter, in the intermediate ſpaces, acroſs the line of inciſion.

About the third or fourth day, the ſerous diſcharge appears through the bandages, and the ſlips of plaſter grow looſe and require to be removed: the ſtitches in the teguments may then be divided with a pair of ſciſſars. The inciſion is after this dreſſed daily with ſmall ſlips of lint, ſpread thin with a mild cerate made with the pureſt oil and wax. The ligaments by which the arteries are ſecured, are gently tugged every day after the firſt inflam-

mation is abated, and drawn away in due time for the ſecondary union, or what is termed adheſive inflammation, to take place. The cure is greatly accelerated, by repeatedly ſupporting the edges with a few ſlips of adheſive plaſter.

When the ſkin is ulcerated or diſeaſed, a ſecond inciſion is made in as ſtrait a line as the incluſion of the diſeaſed part will admit, as far as the extremity of the firſt; and the edges, &c. are brought together in the ſame manner as before directed. The inciſion he orders to be made below the nipple, becauſe the natural poſition of the part more readily inclines to union, and the breaſt is leſs ſubject to deformity.

This method deſerves particular attention, as the cure is generally completed in a fortnight or three weeks; nay, ſometimes in as many days as weeks, where the ſuppurative proceſs has taken place.

The difficulties that the inventor has found in eſtabliſhing this method, are not at all to be wondered at, ſince credit will attend every new mode of practice, according as it is countenanced by the leading men in the profeſſion.

A large thick ſoft compreſs made of linen, that has been in uſe, is to be applied after each mode of dreſſing, and a linen, or rather flannel roller, about five inches broad, and ſix or eight yards long, bound gently tight over all. The arm, on the affected ſide, is to be ſupported in the flexed poſition, by a handkerchief tied round the neck.

Wens, glandular, ſtrumous, or encyſted tumours, may be operated upon, after one or other of the foregoing methods; and care ſhould be taken to preſerve a due quantity of ſound ſkin and integuments, in order to promote union by the firſt intention, as much as poſſible.

The method of extirpating ſcirrhous or cancerous tumous by cauſtic, is infinitely more irritating, painful, and imperfect, than by the knife,

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it has not therefore been attempted by the regular practitioner, except where the knife was inadmiſſible.

CÆSARIAN SECTION.

The moſt conſiderable impediment to natural child birth is, when the pelvis is ſo diſtorted, or contracted in its dimenſions, as to prevent the child's head paſſing without being opened. In order therefore to preſerve the life of the child, two formidable operations have been practiſed, the one denominated cæſarian ſection, the other, the ſection of the ſymphyſis pubis.

The cæſarian ſection was originally performed after the mother's death; afterwards, when there was no other proſpect of ſaving either mother or child.

The honour of aſcertaining the extreme dimenſion of the pelvis, in which embryulcia, or the extraction of the fœtus can be performed, of fixing due limits to the cæſarian operation, and checking the dangerous practice of dividing the ſymphyſis pubis, which latter was humanely pointed out as a medium for the ſafety of both mother and child, is principally due to Dr. William Oſborne, of London, who in his excellent Eſſay on Laborious Parturition, has regularly proved, that death is almoſt infallibly the mother's lot by the cæſarian operation, and that no circumſtance can render the ſectio ſymphyſis warrantable.

Much has been written for and againſt the cæſarian operation, but the want of ſucceſs with reſpect to the life of the mother, in every attempt lately made in theſe kingdoms, ſeems ſtrangely to contradict the accounts which have been publiſhed in its favour. In inſtances where the diameter of the pelvis is leſs than one inch and a half, it is perhaps the only mode for delivery, ſince the gaining three or four lines

by means of the ſectio ſymphyſis will be manifeſtly uſeleſs. In every ſuch caſe, therefore, it is ſurely more warrantable to give the mother the chance of this operation, although dangerous in the extreme, than ſuffer her to die undelivered.

The mode of operating is as follows: An inciſion ſix inches in length, beginning between two and three inches higher than the navel, is to be made in a longitudinal direction, about a hand's breadth from that part, and on the ſide of the abdomen to which the uterus inclines, through the adipoſe membrane; an opening is then to be carefully made through the tendinous expanſion of the abdominal muſcles and peritonæum, ſufficient to admit the fore-finger of the left hand, upon which the curved knife is to be conducted upwards, along the courſe of the inciſion, when, unleſs the caſe be extra-uterine, the uterus being brought to view, an aperture is to be made with the ſame caution near the centre of the wound, into the uterus, and large enough for the introduction of the finger, upon which the point of the knife is to be conducted upwards and downwards, in equal extent with the outward inciſion. The placenta and membranes will moſt probably incline to protrude at the inſtant that the inciſion in the uterus is compleat. The ſides of this inciſion are to be kept as much aſunder as poſſible, whilſt the hand of the operator, or an aſſiſtant, is introduced for the fœtus, which muſt be extracted by the feet.

This being done, an aſſiſtant ſhould be ready to tie and divide the umbilical cord, and the placenta is to be removed as ſoon as poſſible, ſince the uterus quickly contracts, but more eſpecially as ſoon as freed from its contents; which circumſtance occaſions the omentum and inteſtines to preſs forward in ſuch a manner as to require an aſſiſtant to keep them back, whilſt the operator is cleanſing the wound, and ſewing it up. This ought to be done

done with the quilled ſuture, and double ligature, at proper intervals, each ſtitch being made an inch at leaſt, or an inch and half from the edge of the lips of the wound, which ſhould be dreſſed with lint and a common pledget.

Heiſter advices the inciſion to be made between the navel and ilium, through the point where the paracenteſis is commonly made; but in an account of this operation, as performed in the year 1769, by that ingenious and ſkilful operator Mr. Henry Thompſon, then one of the Surgeons of the London Hoſpital, it is proved, that the courſe of the linea ſemilunaris, is by far the moſt eligible part to operate in, both to leſſen the chance of hæmorrhage, and avoid the protruſion of the inteſtines and omentum; the whole loſs of blood during that operation, which is the ſtandard of the foregoing directions, having not exceeded four ounces.—Vide Med. Obſ. and Enq. vol. i.

It is recommended by Heiſter to ſow up the wound in the abdomen, ſo as to leave an opening at the bottom for the inſertion of a canula, tent, &c. which precaution is certainly of no kind of uſe, ſince it cannot, with either convenience or ſafety, be made a depending orifice, or be in the leaſt connected with the internal wound.

DIVISION OF THE SYMPHYSIS PUBIS.

From the favourable opinions which many principal men in the profeſſion abroad have publickly avowed concerning this operation, the extravagant encomiums of ſome eminent practitioners in midwifry who have performed it, and the ſingular honours and rewards conferred on Mr. Sigault for firſt attempting it, one would hardly ſuppoſe that the utility of it could be at all diſputed. On the other hand, when we duly conſider that to gain four

lines, or one third of an inch at moſt, the oſſa pubis muſt be ſeparated two inches and a half; and when, as Dr. Oſborne has very juſtly obſerved, "we reflect upon the miſchief that the ſoft parts muſt ſuffer from ſuch a ſeparation, particularly thoſe which lie immediately behind, and in contact with the oſſa pubis, by being torn from the bones to which they are naturally connected, expoſed for a conſiderable time to the external air, and by being preſſed againſt the divided edges of the bones of the pelvis, in the paſſage of the child's head;" it ſeems to be rather more extraordinary, that men of experience and knowledge ſhould have given it the leaſt degree of countenance.

Whoever attentively follows the Doctor through this ſenſible performance, will find that he has regularly and clearly demonſtrated the following facts:

That a child at full maturity cannot be born alive through the natural paſſage, where the dimenſion of the pelvis is not two inches and three quarters from pubis to ſacrum.

That when a pelvis meaſures from two inches, to two inches and three quarters, the head being opened in the beginning of the labour, may collapſe and be forced down by the powers of nature, without the uſe of the crotchet; or that it may at leaſt be more eaſily and ſafely effected therewith.

That the head of a child at full maturity cannot be engaged in a pelvis which meaſures only from one inch and a half, to little more than two inches, without the help of the crotchet.

That a child at full maturity has been extracted by the Doctor, with ſafety to the mother, by means of the crotchet, where it meaſured not more than one inch and a half from pubis to ſacrum; which is much leſs than is thought to require the cæſarean operation.

That conſidering the life of the child in its true

and natural light, it ought not to be put in competition with the ſafety of the mother. And,

That, as has been before remarked, the oſſa pubis muſt be ſeparated two inches and a half, to gain four lines, or one third of an inch at moſt.

From theſe facts, together with the hiſtory and event of ſeventeen caſes out of twenty-five, wherein the ſectio-ſymphyſis had been performed previous to the publication of the eſſay, particularly the detail of the firſt caſe, which may be called a hair-breadth eſcape, he has confuted every argument in its favour, by proving from the accounts of thoſe who are partial to this operation, that every one of theſe caſes was attended with fever, inflammation, gangrene, fiſtula of the bladder, exfoliation in the oſſa pubis, and other grievous ſymptoms; and that in moſt inſtances, it has not anſwered one part of its original intent; namely, that of preſerving the child; alſo, that in ſeveral it has terminated fatally to both the mother and child.

Mr. Bell, in the ſixth volume of his excellent book of ſurgery, has ſingularly noticed the diviſion of the ſymphyſis pubis. He adviſes that operation, in preference to the delivery with the crotchet: and from what he has there advanced, it may reaſonably be ſuppoſed, that his opinions on this ſubject have not been formed from practice; particularly when he declares, "That the diviſion of the ſymphyſis pubis is not *in any reſpect* hazardous."

The following is a brief deſcription of the operation, as it was firſt performed by Meſſrs. Sigault and Le Roy, together with its event:

It was performed with a common biſtoury, by cutting through the integuments and linea alba, beginning the operation at the upper and central part of the ſymphyſis pubis; then introducing the fore-finger as a director, and dividing the ligaments and cartilage; immediately upon which, the oſſa pubis ſeparated about two inches and a half. The feet of

the child are ſaid to have been brought down by Mr. Sigault, and the delivery to have been quickly accompliſhed by his able advocate, M. Le Roy. The child was born alive, and no hæmorrhage is ſaid to have enſued. A bandage was afterwards applied round the body of the mother, in order to keep the pelvis firm. All went on pretty well till about the ſixth day, when the patient was ſeized with rigor, and every inflammatory ſymptom; gangrene and ſlough enſued, in the urinary paſſage at leaſt, which was wounded in the operation, and moſt probably in the bladder itſelf. She had two relapſes, in both which her life was deſpaired of; and ſhe could not be pronounced out of danger from the operation, till about the thirtieth day, after which ſhe gradually recovered. *No inconvenience* is ſaid to have remained, except that whilſt ſtanding or walking, her urine would paſs away involuntarily. It ought to be further remarked, that the child was very ſmall, and that its birth was ſuppoſed to be premature.

OBSTRUCTIONS, COHESIONS, AND STRICTURES IN THE GENITALS.

Obſtructions and coheſions ſometimes happen in girls, at the entrance of the urethra and vagina.

The firſt is diſcovered ſoon after birth, from there being no paſſage for the urine; in which caſe, if not ſoon relieved, the infant muſt periſh. Sometimes the paſſage is ſmall, and contracted in ſuch a manner, that the urine can only be diſcharged by drops. The orifice of the vagina is alſo at times ſhut up by the hymen, or a thick fleſhy membrane; which circumſtance is ſeldom diſcovered till the age of puberty, when the menſtrual diſcharge is prevented from making its exit; producing fulneſs and tumour at the part, with the general ſymptoms of ſuppreſſion. Coheſion, and ſtricture, are alſo known

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to occur on the ſides of the vagina. The former inſtances are moſtly natural defects and imperfections; the latter may proceed from thickneſs of the coats, ulceration, and cicatrix.

In all ſuch caſes, relief is principally to be obtained from the knife and director, or finger in its ſtead, as deſcribed under the article Imperforated Anus; taking care to avoid injuring the bladder and rectum. When the hymen is extended over the urethra, a longitudinal inciſion may ſuffice.

When either paſſage is very ſmall and contracted, it may be relieved in great meaſure by dilatation, or gradual diſtenſion, with a bougie of a proper ſize, or after the manner deſcribed by Mr. Bromfield; which is, by introducing the cloſed end of the appendicle of the blind gut of an animal, or fowl, in a collapſed ſtate, up the paſſage, to the extent of the conſtriction, and filling it with tepid water by means of a ſyringe; then ſecuring the open end, which muſt be left out a proper length, by ligature. This contrivance has anſwered well in ſeveral caſes where dilatation or compreſſion was required; particularly in compreſſing the mouths of the veſſels in the bleeding piles, when ſeated out of the reach of the needle. Scarifications, or ſmall inciſions, are recommended on the ſides of the vagina, when ſtrictured from cicatrix, &c.

Warts, Tubercles, Caruncles, Excreſcences, and enlarged Nymphæ. Excreſcences of various ſizes and ſhape, reſembling warts, grapes, mulberries, muſhrooms, &c. infeſt the private parts of women, both internally and externally, are exceedingly troubleſome, and have ſometimes degenerated into cancers. Proper diſtinction ſhould be made between ſome particularly ſhaped excreſcences, and the prolapſus uteri, or vaginæ.

When tumours of this kind greatly obſtruct the paſſage, it may be neceſſary to remove them by ligature, ſciſſars, knife, or catheretics, as in thoſe

about the anus. The nymphæ are ſometimes greatly enlarged and indurated, requiring to be partly, or wholly, extirpated with the knife. When ſuch complaints ariſe from a vitiated habit, a proper courſe of medicines will be neceſſary.

PROLAPSED AND INVERTED UTERUS.

Prolapſus Uteri. This complaint is diſtinguiſhed into two kinds; the incomplete, which is ſo termed whilſt the uterus remains in the vagina, formerly called deſcenſus; and the complete, to which alone was given the appellation of prolapſus, when it reaches beyond the pudendum.

When the prolapſed part gets low down in the vagina, the ſenſe of weight, irritation, and painful diſtenſion, are exceedingly fatiguing; and as it proceeds towards the os externum, the preſſure againſt the urethra and rectum, frequently creates great difficulty and pain in paſſing both urine and ſtool: much more trouble ariſes, when the prolapſed part protrudes beyond the external orifice, particularly excoriation and painful irritation from friction in walking.

When the diſorder proceeds from relaxation, or violence, and makes a gradual progreſs, it is not ſo likely to inflame; but when it follows immediately after a laborious birth, the parts ſhould be quickly returned, otherwiſe the ſudden diſlodgement and expoſure to the air, are very likely to produce inflammation and gangrene.

The prolapſus uteri may, by a careful examination, be perfectly diſtinguiſhed, either from its inverſion, the prolapſus vaginæ, or excreſcences of that part. The former is of a firmer texture, and wears a ſmoother ſurface than either of the latter complaints; beſides, the os internum is commonly to be ſeen or felt in the firſt, and not in either of the other tumours.

CAUSES,

CAUSES. The prolapſus is generally ſuppoſed to ariſe from a relaxation of the ligamenta lata and rotunda, but chiefly from weakneſs in the vagina; all which may be occaſioned from a debility in the habit, laborious births, or frequent miſcarriages.

CURE. When it follows a difficult labour, or rough treatment, it ought to be reduced as early as poſſible, for fear of alarming conſequences. After reduction, the patient muſt be kept for ſome time in a ſupine poſture, with her hips elevated, and her thighs cloſe to one another; by which means only, in a recent caſe, the parts have been known to recover their tone. Should inflammation follow, proceed as in other caſes, conſiſtent with the nature of the habit and particular ſtate after labour. The thebaic tincture, with antimonial or ipecacuanha wine, internally, and properly repeated, together with diluent liquors, are moſt likely to be ſerviceable under ſuch ſymptoms.

If the complaint be of long ſtanding, and its deſcent low down, the reduction will be proper, and it may be frequently retained by means of a counter-diſtenſion in the vagina with a peſſary, which inſtrument is made of box, lignum vitæ, or ivory; the bark, chalybeates, and ſuch like tonic remedies, together with the cold bath, are alſo neceſſary. Fumes, fomentations, and injections, are not likely to have good effect, unleſs the weakneſs proceeds from, or is increaſed by a copious diſcharge of mucus, or fluor albus; then dry fumes from the gums benjamin, maſtich, olibanum, &c. and aſtringent injections, may prove ſerviceable. The diſtenſion of the uterus during pregnancy, often ſupports the part.

The mode of reducing a prolapſus is eaſily to be underſtood from what has been obſerved reſpecting the prolapſus ani. The patient muſt be laid on her back,

back, with her hips elevated, and the part is to be artfully paſſed up as high as poſſible, by means of preſſure with the fingers of each hand, near to the verge of the vagina; then retained ſo by the foregoing poſture in caſe of tendency to inflammation; or, if free from ſuch dangerous ſymptoms, by means of peſſary, compreſs, and bandage: Peſſaries are made of different ſhapes as well as ſizes. The globe peſſary is much recommended by Dr. Denman, in the London Medical Journal for 1786, part 1. but it has not ſat eaſy with ſome perſons.

Inverted Uterus. This diſaſter ſeldom happens but from the raſhneſs or miſmanagement of the midwife. Too great force applied to the navel ſtring, together with the expulſive throes of the woman, before the uterus has had time to contract, is very likely to draw down the fundus without the os externum. In ſuch a caſe it will be extremely dangerous to wait for ſeparating the placenta, both for fear of conſiderable hæmorrhage and contraction of the vagina and uterus; inſtead thereof, try immediately, yet carefully, to revert the fundus; which, if not practicable by other means, preſs the fingers of both hands on the inward part, and gradually ſqueeze it up as in the prolapſus ani, and follow it up with the whole hand, whilſt the os uteri, and vagina, remain in a relaxed and dilated ſtate. The patient ſhould be placed, and continued in the poſture heretofore deſcribed, with her thighs put cloſe together. Caſes are known where the inverted uterus has remained low in the vagina, even protruded beyond the labia pudendi, and has been nearly contracted to its natural ſize, many years after ſuch accidents; but a conſtant drain, and other dreadful ſymptoms, have ſooner or later proved fatal.

RETRO-

RETROVERTED UTERUS.

This diſeaſe has been but lately underſtood. It is a reflection, or doubling down as it were, of the fundus uteri, between the body of the uterus and the rectum, in the early months of pregnancy. Its general indications are, a ſudden and continued pain in the lower part of the abdomen; pain, and a ſenſe of weight in the back, loins, pelvis, and thighs; together with a partial or total ſtoppage of urine, and difficulty of going to ſtool. When this complaint attacks the patient about the time that the fundus uteri ſhould riſe above the brim of the pelvis, or is inattentively ſuffered to continue impeded, it becomes locked up in the pelvis, and is thus circumſtanced.

Great difficulty occurs in paſſing both ſtool and urine, which evacuations, by degrees, become totally ſuppreſſed. A large tumour is formed in the lower part of the abdomen, by the diſtended bladder; the finger cannot be paſſed either up the vagina or rectum, on account of the reflected uterus preſſing the former againſt the os pubis, and the latter againſt the inſide of the os coccygis; the neck of the bladder, or ſome part of the urethra, alſo is compreſſed, ſo as ſcarcely to admit the catheter to paſs; and the diſtended bladder poſteriorly preſſes the uterus backwards and downwards; and as it riſes up into the abdomen, naturally drags with it the collum uteri, and meatus urinarius.

The pain, weight, and bearing down, are conſtant attendants on the complaint; and the ſubſequent ſymptoms, ſuch as dry tongue, languor, rigor, fever, inflammation, tenſion, and gangrene, are produced by the continued obſtruction and diſtenſion of the bladder, and inteſtinal canal; and the bladder is in danger of burſting if the urine cannot be drawn off.

CAUSES.

CAUSES. A pelvis formed moſt capacious at its inferior part, together with an over-diſtended bladder; in the early ſtage of geſtation, about the time that the uterus reaches the brim of the pelvis.

CURE. If this diſorder happen early, and be properly attended to, it generally gives way to the frequent uſe of the catheter, (the flexible male catheter is preferred) or glyſters, and gentle laxatives; otherwiſe, attempts ſhould be made to reduce it after the following manner: Place the patient on her ſide, then introduce two fingers of one hand into the vagina, and one or two of the other into the rectum; and whilſt ſhe turns herſelf gradually on her knees and elbows, preſs the uterus forward and upward. When the attempt ſucceeds, a relapſe is to be apprehended; therefore the patient ſhould be kept in a recumbent poſture for ſome days, or till the fundus uteri has paſſed the brim of the pelvis; and both the bladder and inteſtine ſhould be frequently emptied.

It is to Dr. Denman's indefatigable endeavours we are indebted for the great and uſeful diſcovery of this complaint; which, although generally conſidered as highly formidable heretofore, is proved to be a caſe of little difficulty or danger if timely attended to.

Dr. Hunter has *ſuggeſted*, perforation of the uterus per vaginam, when the parts are found to be ſo wedged in as to render the reduction impracticable in the diſtended ſtate; from which operation, the liquor amnii being diſcharged, the ſize of the uterus may be ſo diminiſhed as to admit of its repoſition. See further remarks on this dangerous expedient, Lond. Med. Obſ. vol. iv. v.

Prolapſus Vaginæ. A part, or the whole of the vagina, will ſometimes protrude beyond the os externum, like a fleſhy ring, red and bloody, and more or leſs ſwelled. This complaint is generally occaſioned by weakneſs or over-diſtenſion; be it from

from either cauſe, it requires much the ſame treatment as the prolapſus uteri.

Some attention is neceſſary to diſtinguiſh the partial prolapſed vagina from the polypous or fleſhy excreſcence which ſometimes grows out of that part. The remains of rugæ appear moſtly in the former; its baſis is moſt commonly broad, and the tumour does not feel pendulous. Strict enquiry into the riſe and progreſs of each, as well as the continuation of the part, will enable the ſkilful ſurgeon clearly to diſtinguiſh every tumour in theſe parts.

Laceration of the Perinæum. This complaint is to be prevented, by placing the hand firm againſt the part, as ſoon as what is called the tumour begins to form, and forcibly reſiſting the latter part of the labour. If the perinæum only be torn, it may not be attended with very great inconvenience; but when the laceration extends into the rectum, it becomes bad indeed.

Dr. Denman is of opinion, that, ſometimes at leaſt, it ruptures from the poſterior part; as he recollects obſerving a laceration in perinæo, between the rectum and frænulum vaginæ.

The interrupted ſuture is ſaid to have been tried in vain in all ſuch caſes; the chief remedy confided in therefore at preſent is, keeping the parts as appoſite as poſſible, by lying in bed with the legs cloſed. Perhaps ſometimes, juſt paring or ſnipping the edges, and retaining them together whilſt in the bleeding ſtate, by means of the twiſted ſuture, as has been ſucceſsfully practiſed with the jagged callous edges of the perinæum and urethra of men, might prove efficacious. Vide Warner's Caſes.

Cancerated Uterus. Women who have been ſubject to profuſe menſtruation, are very likely to be afflicted with this terrible diſorder; which commonly makes its appearance about the time when that diſcharge ceaſes. It may originate from difficult labour, neglected prolapſus, as well as the general

neral cauſes already mentioned under the article Cancer.

The ſymptoms are, ſtretching lancinating pains in the groins, belly, and about the pelvis; induration and ulceration at or near the collum uteri; a fœtid, ſanious, and ſometimes bloody diſcharge; and, in proceſs of time, tumefaction, and œdema in the labia pudendi, which generally extend themſelves to the groins, and down the thighs.

The powdered leaf of hemlock, with calomel, and bark, are ſaid to have cured an evident ſcirrhus in this part; but in this, as well as all complaints of this kind, no good is to be expected from the uſe of medicine, without due perſeverance.

DISORDERS OF INFANTS.

Many irregularities and imperfections of the different parts of children, previous to their birth, which require the aid of the ſurgeon, are already noticed under the ſeveral articles reſpecting the penis and urethra, anus, hare-lip, coheſions and obſtructions, &c. It remains therefore principally to advert to the following complaints:

Diſtorted Knees, Legs and Feet. Children are ſometimes born with knees or feet turned on one ſide; the bones of their legs are alſo ſometimes weak and crooked; which complaints are frequently confirmed, from being too long neglected, or being ſet upon their feet before their legs are ſtrong enough to bear the weight of the body.

The diſtorted parts are not unlikely to be reſtored to a tolerable ſtate, by gradually attempting to lead them towards a direct poſition with the help of paſteboard ſplints dipped in oxycrate, applied over a thin compreſs, and proper bandage.

The club-foot, in its early ſtage, is ſaid to have been cured by reverſing the poſition as much as poſſible, and repeatedly applying ſlips of linen cloth, dipped

dipped in an epithem made with whites of eggs and flour, and keeping the limb in that poſture until the cloths are grown dry and ſtiff.

In ſome inſtances, machines have been ſo contrived at a proper age, as not only to aſſiſt the weakneſs, but alſo to relieve the diſtortion of the limb.

When the legs of a child are weak or diſtorted, it will be proper to enjoin reſt, till the part is relieved as far as may be, or the conſtitution is generally amended by the uſe of the cold bath, tincture of bark and flowers of ſteel, and now and then interpoſing a gentle puke and doſe of rhubarb.

Tumours on the Head. The tumours here meant are ſuch as form upon the head, chiefly over the fore-part, and on the ſides, and are ſuppoſed to ariſe from ſome injury received during a laborious birth. A tumour of this kind is without inflammation, ſoft, and containing a fluid of a purpliſh red colour; it alſo feels bounded by a ridge, as if there was a depreſſion or deficiency in that part of the cranium; particularly when the fluid, which is generally extravaſated blood, is lodged between the ſkull and pericranium.

Many practitioners have a terrific idea of theſe tumours; and ſuppoſing them to have an important connection, do not care to meddle with them; but the fluid contained in them lies commonly between the teguments and pericranium, now and then between that membrane and the cranium; in which caſe, the external ſurface of the bone is ſometimes injured. Some ſurgeons endeavour to diſperſe them, by applying repeatedly compreſſes wetted with brandy or red wine, and vinegar, in order to excite abſorption; whilſt others condemn ſuch practice, leſt the contained fluid ſhould not be in a ſtate fit to be abſorbed, and uſe the knife indiſcriminately; making an inciſion nearly the length of the tumour, preſſing out the contents, and dreſſing ſuperficially.

Spina Biſida. This diſeaſe is a ſoft ſwelling which ſometimes makes its appearance in different parts of

the ſpine of a new-born infant. It is formed within the covering of the ſpinal marrow, contains a ſerous fluid, and lies in an opening between the neighbouring vertebræ and their proceſſes. This complaint is local, and there is ſometimes a deficiency of bone in the part; it generally proves fatal in a few months. A ſoft hollow pad has been ſometimes applied as a ſupport to the part; but ſhould no effectual remedy be diſcovered, death muſt be the inevitable conſequence of a ſpontaneous breach.

Mr. Abernethy, in his Eſſay on Lumbar Abſceſſes, gives it as *his opinion*, that this complaint is curable; he recommends gentle preſſure from birth, to prevent accumulation, and procure abſorption. Should that not have the deſired effect, and the accumulation of the fluid continue, he thinks it adviſeable to diſcharge the fluid, by puncture, with a fine cutting inſtrument, and endeavour to heal by the firſt intention.

Swellings of this mortal kind have alſo been met with on different parts of the head.

Nævi Materni. Theſe marks are often found, at birth, on different parts of the body, are of various forms, reſembling cherries, grapes, ſtrawberries, &c. and moſtly of a deep red or claret colour. They are commonly flat and broad, ſometimes protuberant, and now and then pendulous. Theſe tumours are of the ſarcomatous kind, are abundantly ſupplied with blood veſſels, and when increaſing, ſhould be removed by the knife or ligature, and be treated accordingly. Their cauſe is truly myſterious.

EXTER-

EXTERNAL MEDICINES,

GENERALLY RECOMMENDED.

Goulard's Extract of Lead.

Take a pound of litharge of gold, two pints of the beſt white-wine vinegar; boil or rather ſimmer them together in a glazed earthen pipkin for an hour, now and then ſtirring up the whole with a wooden ſpatula; ſet the whole by to ſettle, and pour off the top into bottles for uſe. The Lond. Pharm. orders litharge 2 lb. and 4 oz. diſtilled vinegar one gallon, to be boiled to ſix pints, ſet by and ſtrained; which is equally efficacious with the former.

Goulard's Vegeto-Mineral Water.

Put two tea-ſpoonfuls, or one hundred drops, of extract, with two tea-ſpoonfuls of brandy, to a quart of water. The quantity of extract and brandy may be increaſed or diminiſhed according to the ſtate of the complaint, or the greater or leſs ſenſibility of the part.

This remedy is applicable to inflammations that principally ariſe from accident, and ſhould be uſed cold in ſummer, and ſlightly warmed in winter.

Bell's Saturnine Water.

Diſſolve half an ounce of ſugar of lead (ceruſſa acetata) in four ounces of vinegar, and two pints of ſpring water.

This preparation is of the ſame nature with Goulard's vegeto-mineral water, or aq. litharg. acet. comp. Ph. Lond.

Mindererus's Spirit.

Take a dram of volatile ſalt *(ammonia ppt.)* and pour gradually upon it about four ounces of diſtilled vinegar, occaſionally ſtirring the mixture.

This is now called *aq. ammon. acetat.* It is an uſeful diſcutient externally, and is often employed internally as a diaphoretic.

Solution of Crude Sal. Ammoniac.

Diſſolve half an ounce of crude ſal ammoniac in a pint of French or diſtilled vinegar.

This is alſo a powerful diſcutient, particularly in deep-ſeated tumours of the inflammatory kind. The foregoing ſolutions may be applied by means of linen rags frequently moiſtened with one or other of them, or mixed with crumb of bread in form of a poultice.

Common Emollient Poultice.

Take of milk half a pint; crumbs of white bread a ſufficient quantity to give it a proper conſiſtence. Stir up the bread with the milk when heated, and add two or three ſpoonfuls of the pureſt oil, or a proportionate quantity of freſh butter; then braid the whole with a ſpoon into a ſmooth maſs. This is the common ſuppurative poultice, and is to be applied every three, four, or ſix hours, ſpread thick on doubled rag.

Or, a poultice of the ſame kind may be made, by merely ſoaking ſlices of new bread in boiling hot water till quite ſoft, then preſſing out the ſuperfluous water, and beating up the bread with a ſpoon, adding a ſmall quantity of linſeed meal inſtead of oil.

Fermenting Poultice.

This is made with wheat flour, honey, water, and yeaſt, in ſufficient quantity to raiſe fermentation. It is

is made into a thin paſte, and ſet by the fire to ferment, then applied once or twice a day.

Or, as much oatmeal flour as is neceſſary may be mixed up with infuſion of malt into a poultice, adding a ſpoonful or more of yeaſt.

This kind of poultice is recommended to mortified parts. The peruvian bark and tincture of opium have been ſometimes added.

Warm Diſcutient Poultice.

Take of the crumb of white bread, or the flour of oatmeal and the lees of ſtrong beer, each a ſufficient quantity to form a poultice.

This is uſed to cold tumours, flabby ſores, and gangrene, ſerving to aſſiſt the powers of circulation.

Reſolvent Poultice.

Take of the crumb of white bread, oatmeal flour, or linſeed meal, three parts; the leaves freſh or powdered, or the root of hemlock ſcraped, one part; infuſion or a ſlight decoction of camomile flowers, enough to form a poultice. For its uſe, vide Scirrhus.

Adheſive or Sticking Plaſter.

Take of litharge plaſter half a pound, burgundy pitch three ounces, or of yellow reſin one ounce and half. Melt them ſlowly together. Uſed for retaining dreſſings, and alſo the edges of wounds together. Vide Sutures.

Anodyne Embrocation.

Take of opodeldock, or ſpirit of wine and camphor, an ounce and half; tinct. of opium three drams. Mix. The tincture here preſcribed, is what was formerly called thebaic tincture, or laudanum, Vide Int. Rem.

Litharge Plaſter with the Gums.

Take of litharge plaſter three pounds, ſtrained galbanum eight ounces, turpentine ten drams, frankincenſe three ounces. Melt the galbanum and the turpentine together over a ſlow fire; then add the frankincenſe in powder; let the common plaſter be afterwards melted over a very moderate fire, and be intimately mixed with the gums.

This plaſter is frequently applied to indolent tumours, diſpoſing them either to maturation or diſperſion, according to the ſtate which the part is moſt inclined to.

Detergent Lotion.

Diſſolve one dram of gum myrrh in eight or ten ounces of barley water; then add two ounces of honey of roſes; a ſufficient quantity of ſpirit of ſalt to render it tolerably acid, may be occaſionally added, for waſhing the mouth and fauces with.

Goulard's Cerate.

Take four ounces of refined wax, and a pound of pure olive oil; melt them gently together, and pour them into an earthen diſh fit for the purpoſe: as ſoon as this mixture begins to cool, incorporate the following quantity of vegeto-mineral water, by little and little, with the wax and oil, by means of a wooden ſpatula, ſo that each quantity of the water be perfectly taken up before more is added. Four ounces of the extract is to compoſe ſix pounds of the water. The above quantity of oil and wax has been made to abſorb eight or nine pounds of the water.

It has the property of healing ulcers, wounds, excoriations, burns, ſcalds, chilblains, &c.

A very few drops of the extract, added to two or three ſpoonfuls of cream, make a neat and efficacious liniment or cerate for kibes, &c.

White

White Ointment.

Take of olive oil four ounces, Spermaceti ſix drams, white wax one ounce.

Melt over a gentle fire, and keep briſkly ſtirring till cold.

Liniment.

Take of olive oil three ounces, ſpermaceti ſix drams, white wax two drams.

Melt over a gentle fire, and keep briſkly ſtirring till cold.

Cerate.

Take of olive oil four ounces, ſpermaceti half an ounce, white wax four ounces.

Melt over a gentle fire, and keep briſkly ſtirring till cold.

Yellow Cerate.

Take of the pureſt yellow wax and olive oil, of each equal parts; melt them together, then pour the mixture into a gallipot, and keep ſtirring it till it grows cold: rather more oil will be neceſſary in winter.

Theſe cerates are of general uſe, ſpread upon tow, or doubled rag; and are preferable to moſt other external applications, for ulcers, abſceſſes, wounds, &c.

The Strong Mercurial Ointment.

Take of pure quickſilver and pork-lard each equal parts, rub the quickſilver firſt with a very ſmall portion of gooſe-greaſe, then rub the whole well

well together, till the quickſilver is perfectly mixed and extinguiſhed. Vide Venereal Ulcer, Lues, &c. for its uſes.

Camphorated Spirit of Wine.

Take of camphor two drams; rectified ſpirit of wine, four ounces; put them into a phial, cork it cloſe, and ſet it by for ſolution.

Camphorated Oil.

Diſſolve half an ounce of camphor in two ounces of the pureſt olive oil. This and the camphorated ſpirit, with or without opium diſſolved, or the thebaic tincture, are uſeful embrocations againſt ſpaſmodic pains.

Camphorated Vitriolic Water.

Take of white vitriol half an ounce, camphor two drams, boiling water two pints, mix them, and after the fæces are ſubſided, filter the liquor through paper. Many an obſtinate ulcer has yielded to the application of this water properly diluted, and ſtrict ſpiral bandage. Vide, Ulcers in General. This preparation diluted is alſo a very uſeful opthalmic.

Lotions for the Eyes.

Ten grains of white vitriol in two ounces of roſe water, or, one dram of compound powder of ceruſs to ſix ounces of roſe water; or Goulard's vegeto-mineral water; or, common almond emulſion and camphorated mixture of each equal parts——

The firſt is adapted to ſtrengthening the parts after inflammation, the ſecond and third to abate that ſymptom, and the laſt is uſeful as a detergent.

Trau-

Traumatic, or Vulnerary Balſam.

Take of benzoin one ounce and an half, ſtorax one ounce, balſam of tolu half an ounce, ſocotrine aloes two drams, rectified ſpirit of wine one pint: digeſt in a bath heat, and let them ſtand together for ſome time, frequently ſhaking the bottle; and when the gums are diſſolved as much as poſſible, ſtrain off the balſam for uſe.

This is an elegant improvement of Turlington's Balſam, and its external uſes are particularly deſcribed under the articles—Wounds and Complicated Fractures. In the Pharm. Lond. it is named Tinct. Benz. Comp.

INTERNAL REMEDIES,

GENERALLY RECOMMENDED.

Saline or Fever Mixture.

To two drams of ſalt of tartar, (kali præparatum) add three ounces of lemon juice, and as ſoon as the effervescence ceaſes ten ounces of boiled or diſtilled water, two or three table ſpoonfuls of beſt brandy or ſpirituous cinnamon water, and half an ounce of ſugar. A ſmall tea-cup full of this mixture may be taken once in three or four hours. It is ſometimes more efficacious with the addition of a grain or two of emetic tartar (tartar. antimon.) to the whole quantity.

Nitrous

Nitrous Julep or Decoction.

Boil two drams of pure nitre powdered, in twelve ounces of water, a few minutes, then pour off the liquor, and add to it two ounces of ſyrup of lemons, or one ounce of refined ſugar: from two to four table ſpoonfuls of this may be taken alone, or with a cup of thin barley water, every two, three, or four hours,

Or, from five to ten or more grains of nitre rubbed into powder, with equal quantities of gum arabic and ſugar, may be taken now and then in a cup of barley water, to which is ſometimes added, two or three grains of camphor powdered, or about an eighth of a grain of emetic tartar, according to the ſtate of the fever, or the patient's ſtomach.

Camphor Julep or Mixture.

Take of camphor one dram, refined ſugar half an ounce, boiling water one pint; rub the camphor with a few drops of ſpirit into powder, afterwards with the ſugar, then add the water by degrees, ſet the mixture by to cool in a cloſe veſſel, and paſs it through a ſtrainer. The doſe is from two ſpoonfuls to a ſmall tea-cupful occaſionally, to eaſe ſpaſmodic pains in the ſtomach.

This julep may be uſed with the nitrous julep, in the proportion of one third, ſhould the ſtomach nauſeate the latter.

Camphor Emulſion.

Take of camphor one ſcruple, ſugar and gum arabic, of each two drams, or ſweet almonds blanched four in number, rub them well together, and gradually add of diſtilled water ſix ounces.

This preparation is more efficacious than the mixture.

mixture. The doſe one or two table ſpoonfuls now and then.

Almond or Common Emulſion.

Take of ſweet almonds blanched one ounce, gum arabic half an ounce or more, double refined ſugar ſix drams, barley water two pints; the almonds and ſugar are to be beaten together in a marble mortar; the barley water with the gum diſſolved in it, is to be poured upon them by little at a time, and the liquor is to be ſqueezed through a ſtrainer. Its uſe is to dilute and obtund bilious and acrimonious humours, taking a cupful now and then. It is a pleaſant vehicle for the nitrous powder, and may be made a gentle laxative, by adding an ounce of manna, and three drams of ſoluble tartar (kali tartariſatum) to about a pint.

Cooling Purge.

Diſſolve half an ounce of Glauber's Rochelle ſalts, (natron vitriolatum aut tartariſatum) and the ſame quantity of manna, in three ounces of boiling water; ſtrain off the liquor, and add to it one dram of tinct. cardamom. for a doſe.

The ſame quantity of ſalts may be diſſolved in half a pint or more of water, and divided into two or three doſes, to be taken an hour or two diſtant from each other, if neceſſary.

Laxative Mixture.

Infuſion of ſenna three ounces, Epſom ſalts, or, cryſtals of tartar three drams, tincture of ſenna half an ounce, mix. Two large ſpoonfuls to be taken every three or four hours, till it operates; which it generally does with leſs griping than moſt of the opening kind.

Common

Common Glyſter.

It may be prepared with ten ounces of gruel, decoction of bran, or camomile flowers, adding three or four ſpoonfuls of ſweet oil, and one of coarſe ſugar or honey: if intended to purge, diſſolve in it half an ounce or more of lenitive electuary, or the ſame quantity of purging or common ſalt.

Dover's Powder.

Take of opium and ipecacuanha root powdered, each two grains; nitre and tartar of vitriol each eight grains: one doſe for an adult.

Antimonial Wine.

Take of vitrified antimony rubbed into powder one ounce, mountain wine a pint and a half. Digeſt for twelve days without heat, now and then ſhaking it up, and filter through paper. Given from ten to ſixty drops, it acts as a diaphoretic and alterative. Vide Fractures, &c.

Ipecacuanha Wine.

Take of ipecacuanha root groſsly powdered one ounce, dried orange peel two drams, mountain wine a pint. Macerate for eight days then filtre.

It operates as a ſafe vomit from half an ounce to an ounce, and is frequently given from twenty to thirty drops or more, with or without the thebaic tincture, as a diaphoretic.

Thebaic Tincture or Liquid Laudanum.

Take of ſtrained opium ſliced two ounces, cinnamon and cloves each a dram, mountain wine one pint,

pint. Macerate without heat for a week, and then filter the liquor through paper. The doſe may be from ten to thirty drops: joined with antimonial or ipecacuanha wine, it acts as an excellent ſudorific. The chief uſe of the ſpices is to render the opiate more agreeable to the ſtomach.

Opiate Pill.

Take of crude opium, and hard ſoap each one grain, and form into a pill for a common doſe, to be repeated in an increaſed or diminiſhed ſtate, according to the exigency of the caſe.

Mucilage of Gum Arabic.

Take of gum arabic powdered two ounces, warm water four ounces; rub them well together, and preſs through linen cloth.

Alterative Pill.

Take of calomel from one to two grains, camphor two or three grains, conſerve of hips a ſufficient quantity. For other mercurial preparations, vide *Scirrhus, Scrofula, Lues,* &c.

Decoction of the Bark.

Take of the Peruvian bark (cinchona) from one to two ounces, ſpring water a pint and a half; boil to a pint in a cloſe veſſel. From two to three large ſpoonfuls may be taken two or three times a day, with or without a few drops of elixir of vitriol, as a reſtorative; or every two, three or four hours, according to the neceſſity of the caſe.

Sarſaparilla Decoction.

Take of ſarſaparilla root ſliced and bruiſed four ounces,

ounces; boil in a gallon of water to half the quantity, then ſtrain off the liqour.

Compound Decoction of Sarſaparilla.

Take of the ſarſaparilla root cut and bruiſed ſix ounces, bark of ſaſſafras root, guaiacum ſhavings, and liquorice root, of each an ounce, bark of mezereon root three drams, water ten pints; macerate with a gentle heat for ſix hours; then boil down to five pints, near the end adding the mezereon. Strain for uſe.

Decoction of the Woods.

Take of guaiacum ſhavings three ounces, raiſins of the ſun ſtoned two ounces, ſaſſafras ſhavings and ſliced liquorice root each an ounce, water one gallon; boil down the water with the guaiacum and raiſins, over a moderate fire, to four pints, and add, towards the end, the ſaſſafras and liquorice; then ſtrain off the liquor.

Decoction of Mezereon Root.

Take of the bark of mezereon root from a dram and a half to two drams, liquorice roots ſliced two drams, water three pints; boil down the liquor to a quart and ſtrain.

Each of theſe decoctions may be taken by itſelf, or with a mercurial or antimonial alterative, from one to two pints three times a day. The ſimple ſarſaparilla decoction agrees beſt with hot bilious conſtitutions; the compound, and decoction of the woods, with cold phlegmatic conſtitutions; and mezereon decoction is known to be highly efficacious in the cure of venereal phagædenic ulcers, and to have anſwered better than the former after a mercurial courſe. Vide *Bubo*.

Decoction of Serpentary.

Boil half an ounce of ſnake-root bruiſed in a pint of water to twelve ounces, then ſtrain off the liquor without preſſure. This has been of great uſe in languid habits, when joined with the bark decoction, in the proportion of one to three parts of the latter.

Diluting Drinks.

Theſe may be made with pearl or common barley properly waſhed, rice, whole oatmeal, and bran boiled in water; infuſion of balm or ſage ſlightly acidulated with lemon or orange juice, and ſweetened or not with ſugar or honey; apple ſliced, ripe currants, &c. infuſed in boiling water; pleaſant cooling drinks are alſo prepared from the currant and raſpberry jam, rob of elder, tamarinds, &c. Small ſpirit of vitriol may alſo be uſed to acidulate drinks with, &c. in fevers of the putreſcent or putrid kind, which may be readily compounded after the following recipe. Some phyſicians have given preference to ſpirit of ſalt (muriatic acid) in ſuch caſes.

Small Spirit of Vitriol.

Weigh four ounces of water, by troy weight, in an open veſſel of glaſs or ſtone, to which add by drops, or in a fine ſtream, four drams (troy) of ſtrong ſpirit or acid of vitriol.

FINIS.

MVSEVM
BRITAN
NICVM